THE GOVERNMENT OF LOWER MERION TOWNSHIP
PENNSYLVANIA

A REPORT OF A SURVEY BY THE BUREAU
OF MUNICIPAL RESEARCH OF PHILADELPHIA

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BUREAU OF MUNICIPAL RESEARCH
OF PHILADELPHIA

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The Commissioners of Lower Merion Township
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Ardmore, Pa. 8th March, 1923

Mr. Frederick P. Gruenberg, Director,
Bureau of Municipal Research,
Franklin Bank Bldg., Phila., Pa.

Dear Mr. Gruenberg:-

The survey of the government of the Township of Lower Merion made by the Bureau of Municipal Research of Philadelphia at the request of the Township Commissioners was concluded in 1922.

The report of that survey embodies a complete description of the various administrative departments, outlines the duties and powers of the Township authorities, and contains a number of instructive criticisms. Certain of the changes recommended by representatives of the Bureau were obviously so desirable that they were adopted prior to the actual writing of the report. Some are in course of adoption. Others have received and are receiving the careful consideration of the Township Commissioners. Though there may be a difference of opinion as to some of the Bureau's recommendations, and all of them may not be adopted, the survey has unquestionably proved most helpful to those charged with the responsibilities of local government in Lower Merion Township and should, in the judgment of the Commissioners, prove of great value to other townships and municipalities. Citizens of Lower Merion can find no better description of their local government or obtain a better understanding of the problems in connection with its administration than as contained in this volume.

Thanks are not only due to the staff of the Bureau of Municipal Research for the excellent work they have done in this matter, but to the employees of the Township, to the members of the Board of Commissioners and to the Township Solicitor, all of whom have aided in the survey in every way possible.

Yours very truly,

Jos. O. Kerbaugh
President.

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BUREAU OF MUNICIPAL RESEARCH
805 Franklin Bank Building
1418 Chestnut Street, 1417 Sansom Street
Philadelphia

March 27, 1922.

To the Board of Commissioners
of Lower Merion Township.

Gentlemen:

In accordance with your invitation, and under the terms of the agreement between the township of Lower Merion and this Bureau, executed July 6, 1921, we have made a study of the government of the township and take pleasure in submitting herewith our report in duplicate.

A study of the government of a forward-looking and rapidly developing community presents the problem of limiting the scope of the inquiry, and avoiding the temptation to pursue indefinitely the numberless ramifications of each phase of the work. Accordingly, the present report has necessarily omitted certain details.

The greater part of the field work of this survey was performed during the summer and autumn of 1921. An earnest effort has been made to verify and bring down to date our statements of fact, by consultation with members of the board of commissioners and with responsible officers and employes of the township. In the interest of accuracy, however, we would request that our attention be called to any errors that may have crept into the report. We would, moreover, request that you regard this typewritten manuscript as tentative and that you will permit the correction of any inaccuracies before the report is printed.

We have endeavored to accompany every adverse criticism with constructive suggestions. In collaboration with officers and employes of the township, minor suggestions have been made orally from time to time in the course of the study, and many of these have already been adopted.

The workers of the Bureau staff who have been engaged in this study are: William C. Beyer, E. Lewis Burnham, James W. Follin, Robert J. Patterson, Edward T. Paxton and Clarence G. Shenton. These men are the authors of the various chapters of this report dealing with their respective specialties, but the report as a whole represents the findings and judgment of the group assigned to this study. In addition, the writer has been in frequent consultation with the various workers as the study proceeded, and has edited the report as a whole.

Grateful acknowledgment is made to Edward T. Hartman, managing director of The Child Federation of Philadelphia, who cooperated in preparing the chapter on parks and playgrounds; to Charles F. Puff, Jr., sometime highway engineer in the department of public works of the city of Philadelphia, for advisory engineering service in the study of highways; to the bureau of fire prevention, department of state police; to the Suburban Underwriters' Association; and to the engineering division of the state health department.

Helpful cooperation was extended by the Main Line Citizens' Association, the Merion Civic Association, and The Suburban Association of the Main Line.

We wish to record our deep appreciation of the courteous and helpful cooperation of the various members of the board of commissioners, and of the board of health, and of the department heads and employes, with whom we have had the most pleasant and cordial relations during the progress of the work.

Respectfully submitted,

Frederick P. Gruenberg
Director

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The Government of Lower Merion Township

CHAPTER I

GENERAL ORGANIZATION

Lower Merion Township, covering an area of approximately 25 square miles, with a population, according to the 1920 census, of 23,866, is situated in Montgomery County, Pennsylvania, adjacent to the city of Philadelphia on its northwest boundary (see chart I-1). It was organized as a township of the first class in the year 1900. The act of assembly under which the township qualified for this status prescribed for townships of the first class a population in excess of 300 to the square mile.

The Corporate Power

The corporate power in a township of the first class is vested in a board of township commissioners. The tendency in the courts has been in the direction of strict construction of the powers of boards of township commissioners. It has been held repeatedly that the commissioners have no powers except those expressly granted by the legislature and such implied powers as are necessary for the performance of the powers expressly granted. At the same time, a board of commissioners in a first-class township enjoys rather wide discretion as to the manner in which it may exercise the powers granted.

Is the Township a Municipal Corporation?

The township is not usually entitled to the designation "municipal corporation." When referred to as a corporation, a township is usually called a "quasi corporation" or is said to "rank low in the scale of corporate existence." In Pennsylvania, townships have been held to be municipal corporations within the meaning of certain statutes and not to be municipal corporations within the meaning of others. They are created in large measure for purposes of administering policies of the state. On the other hand, they have quite extensive powers to enact and enforce local legislation. Apparently the township does not "rank so low in the scale of corporate existence" as the county, but it is not so high as the borough or the city.

Following is a brief description of the offices and agencies most directly concerned in the government of Lower Merion Township. A graphic representation of the governmental structure is presented in chart I-2. It is provided by law that all the township officers must be residents of the township.

The Board of Township Commissioners

The township code as enacted in 1917 (act of July 14, 1917, P. L. 840) provided that where the number of election districts in a township of the first class exceeds five, the number of commissioners shall equal the number of election districts. By an amendment to the code approved April 20, 1921 (P. L. 186), the election districts are named wards. The township of Lower Merion has 13 wards and accordingly 13 commissioners. At the election of 1921 qualified voters of each of the even-numbered wards elected a commissioner for a four-year term. Commissioners from the odd-numbered wards are to be elected at the election in 1923 and quadrennially thereafter. The term of office begins the first Monday in January following the election. Although commissioners must be residents of the township they need not be residents of the wards by which they are chosen. The compensation prescribed by law for a commissioner is $60 a year, less $5 for every regular meeting of the board which he fails to attend.

The board of commissioners organizes at the beginning of the even-numbered years. One of the commissioners is chosen president, and a secretary is elected. Nothing further is specified by law concerning the organization of the commission. The commission, however, provides by its by-laws for the appointment by the president of a number of standing committees and for the election by a majority of the

members of a vice-president, solicitor, superintendent of highways, superintendent of health and drainage, and a chief of police. These officials are elected for the term of one year beginning February 1. The president of the board is a member ex officio of all committees.

Meetings of the Board of Commissioners

The regular meetings of the board are at this writing held on the second and fourth Tuesdays in each month at the township hall, usually at 8 P. M., but it has been recently proposed that beginning with April, 1922, the board should meet on the first and third Wednesdays of the month. Special meetings are provided for in the by-laws. By vote of the majority of the commissioners one of the regular meetings of any month may be omitted. This is usually done and the responsible administrative officials are given authority to approve pay-rolls and other related expenditures in the interim between meetings. The meetings of the board of township commissioners are public, but meetings of its standing committees are not. Public hearings are sometimes held on important projects.

Passage of Ordinances

Ordinances dealing with matters of minor importance, after being reported out of the appropriate committee to a meeting of the board, are passed by a vote of the majority of the commissioners. With respect, however, to ordinances providing for the granting of franchises, issuing of bonds, making of appropriations, fixing the rate of taxation, or for the expenditure of more than $1,000, special formalities are prescribed in the by-laws. The most important of these formalities is that such ordinances must twice receive an affirmative vote of a majority of the commissioners, at different meetings of the board. The by-laws provide that ordinances must be signed by the president or vice-president of the board and attested by the secretary. Under the law they must be published at least once a week for two consecutive weeks in one newspaper of general circulation published in the township. No ordinance becomes effective until 10 days after its second publication.

The Standing Committees—Meetings

The standing committees are as follows: finance, highway, police and fire, health and drainage, playgrounds, law, building regulation. The finance and highway committees are committees of the whole. The creation and personnel of the committees are solely in the discretion of the board, as there is nothing in the law to require such committees.

The practice of the past has been for the committees to hold meetings on the day set for the meeting of the board of commissioners or on the day previous. There is now under consideration a proposal that beginning in April, 1922, the committees shall meet a week in advance of meetings of the board of commissioners. Special meetings of committees are held at the call of the chairman. There is no penalty attached to non-attendance upon committee meetings. Administrative officials attend meetings of the committees that supervise their work.

Duties and Functions of the Committees

The duties of the several committees are set forth at large in the "rules" of the board of commissioners, which apparently have the same effect as by-laws, and are referred to as by-laws hereafter in this report. The names of the committees indicate sufficiently for present purposes the nature of the matters placed in their charge. In addition to considering and reporting on matters referred to them, the committees are charged with supervisory and administrative duties. It is, for example, the duty of the finance committee to supervise the secretary of the commission and "to see that he performs his duties as required by the board." It is also the duty of the finance committee "to see that the township's interests are properly cared for by the township treasurer, township auditors, and township assessors." The police committee is "to enforce strictly all township ordinances or laws requiring police enforcement." The chief of police and patrolmen are under its supervision. Other committees have similar administrative and supervisory functions.

Among the administrative duties of the committees is that of passing upon bills rendered against the township. A bill which has been approved by the appropriate committee is submitted to the finance committee for its approval. The finance committee, having passed favorably upon the bill, submits it for the approval of the board of commissioners.

Committee Chairmen

As a rule a committee authorizes its chairman to perform certain duties for it without further reference to the committee, and usually leaves it to the chairman to procure additional information on projects under consideration. This procedure frequently throws a heavy burden upon the committee chairmen, and since the by-laws provide that the responsible appointed officials shall take their orders from the committee chairmen, the chairmen, at least of the more important committees, are obliged to give a very considerable amount of time to township affairs in addition to their attendance at meetings.

Committee Reports

The work of the several committees is described in the yearly reports submitted by the chairmen. Prior to the war these reports were printed. During the war period they were not printed; but beginning with the report for 1920 the former practice was resumed.

Township Secretary

Section 300 of the township code makes the following provision with respect to the township secretary:

> Section 300. The board of commissioners in townships of the first class shall elect a secretary, who must be a qualified voter of the township, and not a member of the board. He shall act as secretary of the board, shall be the official keeper of the minutes, and shall perform such other duties as are prescribed by ordinance of the board. He shall provide suitable books, the cost of which shall be paid out of the township funds, wherein he shall enter all matters of which he is required to keep a record. His salary shall be fixed by ordinance.

The law does not specify the term for which the secretary is elected, but under article IX of the by-laws of the board he is elected by a majority vote of the board to serve for the term of one year, beginning February 1, and is removable from office for cause by a two-thirds vote of the entire board.

In addition to being secretary of the board of township commissioners, the present incumbent is also secretary of the township board of health, and as such is responsible for their accounts, minutes, and other records. Furthermore, he is township registrar of vital statistics.

Other duties of the secretary are more appropriately referred to in chapter II and elsewhere in this report.

Secretary of Standing Committees

The township secretary is also secretary to all standing committees. He keeps the minutes of their transactions and is custodian of the files of correspondence relating to their work. He opens the mail addressed to the township hall and distributes it to the various departments or to the committee chairmen according to the manner in which the particular matter is being handled. The correspondence pertaining peculiarly to the work of the committees is filed separately for each committee and is maintained separately from mere routine correspondence.

Under the existing arrangement the secretary holds a very important place in the township organization since he is familiar with all matters under consideration by the commission, or the committees, as well as with the administrative procedures.

Town Clerk

A number of statutes enacted prior to the township code provided for the appointment of a town clerk. The code makes no express provision either for the appointment of a town clerk or for the abolition of the office, but it does provide, as above noted, for the appointment of a secretary. The present secretary, however, when acting in certain capacities, designates himself as town clerk. He is not appointed as such, and it seems to be assumed that for certain purposes he is town clerk by virtue of his holding the office of secretary.

The act of June 14, 1911, P. L. 942, abolished the office of town clerk in second-class townships, and in the absence of a corresponding provision of law with respect to first-class townships there is perhaps some ground for the implication that the office still exists in such townships. Evidence supporting the contrary conclusion, however, is not lacking.

Section 300 of the code, which deals with the duties of the secretary, seems to give the secretary the same duties as were given to the town clerk by previous legislation. A number of instances might be cited in which earlier statutes are re-enacted in the code with the substitution of the word "secretary" for "town clerk." It may therefore be doubted whether there is any longer such an office as that of town clerk, and it might be advisable to secure a ruling from the solicitor on this point.

Assistant Secretary

Owing to the large volume and great variety of work falling within the scope of the secretary's duties, and the manifest need for a general assistant to the secretary, the board of commissioners in June, 1921, created the office of assistant secretary. The duties of this office are not prescribed by ordinance, by-laws, or rules; but the assistant secretary does a large share of the detail work previously done by the secretary himself, including practically all the bookkeeping, renders such assistance to the secretary as may be needed, and serves as a sort of deputy secretary. The wisdom of having an assistant secretary was recently demonstrated, when for an extended period the secretary was incapacitated from performing his duties because of an accident.

This office should have been created several years ago, or at least someone capable of doing the necessary bookkeeping, as well as office work in general, should have been provided. For several years the work falling within the duties of the secretary has been much more than a secretary could handle properly with the meager office assistance available to him.

The Township Treasurer

The township treasurer is elected by the township as a whole. He holds office for four years beginning the first

Monday in January after the election. A new treasurer took office in January, 1922. He is also treasurer of the school district. It is provided by law that the township treasurer may not be an auditor.

The treasurer has custody of the township money. He is ex officio collector of state, county, township, school, poor, and other taxes within the township, it being the declared intent of the township code "that no taxes shall be collected in any township of the first class except by the treasurer of the township."

The law is silent as to whether the township treasurer may at the same time be a township commissioner. It would seem, however, that the same person ought not to hold both of these offices. There has recently been a great deal of discussion of this, for on November 7, 1921, one of the board of commissioners whose term was not to expire until January 7, 1924, was elected township treasurer for the four-year term beginning January 2, 1922. The treasurer-elect, however, came to the conclusion that the two offices were incompatible, and resigned as commissioner upon assuming the office of treasurer.

The board of commissioners has the right to fill a vacancy in the office of township treasurer for the unexpired term of a person whose place has become vacant. As "removal from the township" is made one of the causes of a vacancy (section 131 of the code), it is clear that the township treasurer is required to reside in the township during his term of office.

The office and duties of the treasurer are discussed at greater length in chapter II.

Auditors

Provision is made by law for the election by the township at large of three auditors who are to serve for four-year terms. Elections are held at two-year intervals. Two auditors are to be elected at one election, and one at the next.

With the exception of provisions that "no auditor shall at the same time hold the office of constable," and that "no township treasurer shall hold the office of township auditor," the laws seem to be silent as to what offices are incompatible with that of township auditor, and as to what qualifications are or are not necessary for that office. In the event of a vacancy in the office of township auditor the court of quarter sessions of Montgomery County is empowered to "appoint a suitable person to fill such vacancy for the unexpired term of the person whose place he is appointed to fill." It is understood that because of the meager compensation, small interest is taken in the office and that at times there are no candidates for it.

Further discussion of the office and duties of the auditors is reserved for chapter II.

Township Assessor and Assistant Township Assessor

The township as a whole elects for a four-year term, commencing the first Monday of January next following their election, a township assessor and an assistant township assessor, whose duties are to make a triennial assessment of property in the township; to place valuations on additions and alterations not included in triennial assessments; to make return to county commissioners of taxable inhabitants, valuations of taxable property, offices, posts of profit, professions, trades, and occupations; and to perform a number of other miscellaneous and incidental tasks.

For their services they are paid $10 a day[1] for each day they are necessarily engaged in making assessments, but not for more than about 125 days for the triennial assessments, nor for more than 90 days for the intermediate ones. This compensation is paid by the county and not by the township, as the assessments are made primarily for purposes of county taxation.

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[1] The act of May 20, 1913, P. L. 264, provided that "the assessor in each township of the first class in this Commonwealth shall receive, as compensation for his services, ten dollars ($10.00) per diem for each day actually employed by him in the performance of the duties of his office, both in making the triennial assessment and in making the supplemental assessments, in the intervening years between the years of the triennial assessment"; and section 120 of the township code, as amended by the act of June 18, 1919, P. L. 501, created the office of assistant township assessor and provided that "the compensation of the assistant township assessor shall be the same as now provided by law for the township assessor." However, the act of May 20, 1913, P. L. 264, which appears to be the only authority for a compensation in excess of $5 per day, was declared unconstitutional in the case of Kowalski v. Northumberland County, 25 D. R. 313 (1915). If this act is invalid it appears that the compensation of both the township assessor and the assistant township assessor is limited by law to $5 per day for both the triennial assessments (act of April 23, 1903, P. L. 284) and the supplemental assessments (act of April 20, 1905, P. L. 236).

Assistant Assessors

Under section 121 of the code the electors also choose, for a four-year term each, commencing the first Monday of January next following their election, two "assistant assessors," whose duties are to "aid the township assessor only in making any triennial assessment of property made during their respective terms of office." These assistant assessors are likewise paid by the county and receive $5 a day for each day, not exceeding about 125 days, they are necessarily engaged in performing their duties.

The offices of township assessor, assistant township assessor, and assistant assessor are county offices, notwithstanding that the incumbents are elected solely by the electors of the township.

Assistant Clerk

Realizing the value to the township of securing certain information regarding the ownership of property in the township, and recognizing that this information could be secured most satisfactorily from the township assessor, the commissioners made an arrangement with him to supply the desired information for a small yearly compensation from the township. By a resolution of March 23, 1920, the present township assessor was appointed an "assistant clerk," at a compensation of $800 a year, whose duties—

> shall be to make and keep available for the use of the committees of the board and of the officers and employees of the township, a list of the owners of real estate in the township compiled from the records of the recorder of deeds, to be kept up to date during all times of the year and generally to furnish information as to the ownership of real estate and the transfers thereof, and also to make the necessary calculations of the tax duplicate.

Assistant to the Secretary

For the same reasons that the township assessor was engaged to supply information to the township as to the ownership of property in the township, arrangements were made in 1921 with the assistant township assessor to render similar services. By resolution of February 8, 1921, the present assistant township assessor was appointed an "assistant to the secretary," also at a compensation of $800 a year, and with duties similar to those of the assistant clerk.

This title of "assistant to the secretary" is entirely too high-sounding for the nature of the services performed. Furthermore, there is every reason why two persons performing identical work should have the same title. If the title "assistant clerk" is appropriate for the township assessor, it is equally appropriate for the assistant township assessor.

Registry Assessors

The township elects by wards 13 assessors, called "registry assessors," whose duty it is to register voters for election purposes. The registry assessors are paid by the county and are directly under the supervision of the county commissioners.

Section 1425 of the school code, act of May 18, 1911, P. L. 309, requires that an annual enumeration be made in each school district of all children between the ages of six and sixteen, showing the—

> full name, date of birth, age, sex, nationality, place of residence in such school district, name and address of parent or persons in parental relation, the name and location of the school where the child is enrolled or belongs, and the name and address of the employer of any child under sixteen years of age who is engaged in any regular employment or service.

The enumeration is to be made by the "attendance officers, teachers, or other persons employed for this purpose." The school district of Lower Merion employs the registry assessors to make this census, paying 15 cents for each name secured in the more populous districts, and 20 cents a name in the more sparsely settled districts.

Justices of the Peace and Constables

The township elects three justices of the peace and two constables, who are subject to the supervision of county officials.

School Directors

Under the terms of the school code, each township constitutes a separate school district. The school district of Lower Merion is of the third class. As such it elects at large seven school directors.

This report does not deal with school affairs.

Board of Health

The board of health is composed of five members appointed by the president of the board of commissioners. They serve without compensation for five-year terms. The board of health has power—

> to make, enforce, and cause to be published, all necessary rules and regulations for carrying into effect the powers and functions with which they are invested by law, and the power and authority relating to the public health conferred on . . . townships of the first class. Such rules and regulations, when approved by . . . township commissioners . . . and when advertised in the same manner as other ordinances . . . have the force of ordinances of the . . . township.

Expenses incurred by the board of health, its officers or employes, in the performance of the duties imposed upon them by law, must be paid by the township.

Welfare Activities

Directors of the poor elected by the county at large administer poor relief in Lower Merion Township. Except for the playgrounds, the township has control of no welfare activities, such as hospitals, eleemosynary institutions, or libraries. The board of commissioners has, however, made an appropriation of $1,750 for the year 1922 to free libraries in the township.

CHAPTER II

FINANCE AND ACCOUNTING

Some of the most important phases of the township's administration are those that have to do with the raising and spending of money for township purposes. Numerous problems are involved in the raising of money, whether by taxation, by borrowings, by charges for services, or otherwise, and also in the spending or other application of that money. Various procedures are necessary, choices and decisions have to be made, accounts and records must be kept and used, and a variety of relationships must be borne in mind. Every activity of the township is bound up with its finances and is affected favorably or unfavorably by the way in which they are handled.

Obviously, a survey of the scope of the present study could not go into every detail or problem involved in the financial administration of the township. At the most, only the major problems could be dealt with, and some of these much less exhaustively than their importance might justify. Clearly, it is beyond the scope of this survey to formulate or outline a system of bookkeeping adapted to the needs of the township, or to make specific recommendations with regard to the many records, books, and documents of the township.

In the various sections of this chapter an endeavor has been made to deal with the major financial and accounting problems of the township, both by giving a fair picture of existing practices and by suggesting improvements therein.

Finance and Accounting Personnel

Board of Township Commissioners

The board of township commissioners bears substantially the same relations to the affairs and management of the township that a board of directors of a railroad company, a bank, or other private undertaking, bears to the business and management of the private enterprise. Under the law the corporate power of the township is vested in the board of commissioners, and all legislative functions of the township are exercised by the board.

It is clear therefore that the board is responsible for every matter connected with the financial administration of the township, except to the extent that the law has placed this responsibility elsewhere, or has in other ways set limits thereon.

The major financial functions of the board of commissioners include (a) the levying of taxes; (b) the making of appropriations to meet the needs of the township government; (c) the borrowing of money; and (d) the fixing of charges and fees for services rendered by the township, or for licenses issued by it.

The principal provisions of law relating to the powers, duties, and responsibilities of the board with reference to matters of township finance may be summarized briefly as follows:

Within 60 days after the first Monday of January of each year, the board is required to estimate the several amounts of money which will be required for the several specific purposes of township government and expenses during the current fiscal year, and by ordinance to appropriate out of the revenues for the year the specific sums required.

The board is not specifically directed to levy taxes by any particular time, but it must levy such an amount of taxes, within the limits fixed by law, as, with all other revenues, will meet and cover the appropriations made for the current fiscal year.

The board is prohibited from making appropriations in excess of the revenues available for the fiscal year. It is also prohibited from appropriating any money to pay orders or indebtedness of a previous fiscal year unless the revenues of the current year are estimated to be in excess of the requirements of such year, or unless funds of the preceding year that were appropriated for the payment of such orders or indebtedness are available.

The board may borrow money and issue bonds or other evidences of indebtedness therefor, provided the amount of debt incurred and outstanding without the assent of the electors shall not exceed 2 per cent of the assessed value of the taxable property, and provided the total amount of debt incurred and outstanding, both that incurred with and that incurred without the assent of the electors, shall not exceed the limits set by law.

The board is prohibited from incurring any debt or authorizing any expenditure except by ordinance.

The law provides that no work may be hired to be done, no purchases or contracts may be made, and no orders for the payment of money may be issued, by the township authorities which will cause the sums appropriated to the specific purposes to be exceeded; it also prohibits the issuing of any orders for the payment of money when there are not sufficient funds in the treasury applicable to their payment.

The board is authorized to make changes in appropriations, but such changes may be made only by ordinance "in which shall be set out in detail the reasons for and the character of such change."

Contracts, hirings, purchases made, or orders or warrants issued, not provided for by a previous appropriation, or which would cause any appropriation to be exceeded, are invalid under the law; and the board is prohibited from authorizing payment, whether as a moral obligation or otherwise, for any work done for, or materials supplied to, the township without a previous appropriation having been applicable thereto.

The board is required to prescribe by ordinance the manner in which bills for township indebtedness shall be approved for payment; and payments in discharge of township indebtedness may be made only by virtue of warrants or orders drawn by order of the board and attested by the president or the vice-president and by the secretary of the board.

As soon as possible after receiving from the county commissioners the duplicate of the assessed valuations of property and occupations, the board is required to deliver to the treasurer a duplicate of the assessment of township taxes, together with the board's warrant for the collection of the taxes.

The board is required to make abatements or exonerations of taxes in the case of mistakes, indigent persons, unseated lands, and wherever else it may be proper.

Finance Committee

In conformity with the usual practice of legislative bodies, practically every matter coming before the board of township commissioners is referred to a committee of that board for detailed consideration, or else comes to the board in the first instance through the recommendation of the committee to which it otherwise would have been referred. One of the standing committees of the board, the finance committee, was created to deal with the numerous problems of township finance and general administration that continually arise.

As such a large part of every other committee's problems have financial aspects, and therefore fall also within the jurisdiction of the finance committee, this committee for a long time consisted of the chairmen of all the other committees and the president of the board. But as it was felt that the various matters coming before the finance committee were so important and far-reaching that each member of the board should be on this committee, the by-laws were amended on August 23, 1921, so as to bring this about. The finance committee, as stated in chapter I, is therefore a committee of the whole board, as perhaps it ought to be.

As expressed in the by-laws, the duties of the finance committee are:

> 11. To have charge and general supervision over the township finances and books pertaining thereto.
>
> 12. To supervise the Secretary and to see that he performs his duties as required by the Board.
>
> 13. To report at every regular meeting to the Board in full concerning the finances of the township, and to make such recommendations in reference thereto as they may see fit.
>
> 14. To report upon all ordinances covering appropriations which may be introduced into the Board.
>
> 15. To see that the township's interests are properly cared for by the Township Treasurer, Township Auditors and Township Assessors, and to make recommendations thereon to the Board.
>
> 16. To report to the Board as to the rate of taxes to be levied by the township.

> 17. To consider the reports of the other standing committees as to bills approved for payment and to refer bills so reported to the Board for action; Provided, That no bill shall be favorably reported to the Board unless it has been approved as provided for in Rule No. 7 as to standing committees.

Rule 7, to which reference is made in the last paragraph of the foregoing quotation, reads as follows:

> 7. Each standing committee shall, once a month or more frequently if necessary, report to the Finance Committee such bills as it may approve for payment. The report shall be in the form of a list of the bills, and their amounts, upon which the chairman shall endorse the aggregate amount of the bills and the date of the meeting at which they were approved over his signature. Bills for expenditures under the immediate control of the Finance Committee shall, when approved, be listed and endorsed by its chairman in the same manner. The Finance Committee shall not refer to the Board for payment any bill which has not been approved in accordance with this rule.

Township Secretary

As pointed out in the first chapter, section 300 of the township code requires the board of commissioners to elect a secretary, who must be a qualified voter of the township, but who must not be a member of the board.

Various duties of the secretary are prescribed by law. Of these, the following may be mentioned here:

He is required to keep a record of the appropriations made by the board and of the amounts chargeable thereto. It is his duty to furnish to any person so requesting a statement showing the amount available for future charges against any appropriation. If he knowingly furnish an incorrect statement he is deemed guilty of a misdemeanor, upon conviction of which he is to be sentenced to pay a fine of not more than $500.

He is to attest all orders or warrants drawn on the treasurer for the payment of township money.

He is required to keep one or more books in which he is to enter the names of all persons whose taxes are abated or exonerated, together with the date thereof, the reason why, and the amount of the tax; and is required to give to the treasurer a certificate stating the nature of the tax and the amount exonerated.

He is required to permit any taxpayer of the township, or his agent, upon demand, to inspect the minute books and all other records and documents of the township.

Of the duties of the secretary that are set forth in the by-laws, the following relating to the finances of the township may be quoted here:

> 53. He shall have full charge of all books, papers and records of the Board and be held strictly accountable for the same.
>
> 54. He shall keep the accounts of the township in such manner as to readily furnish a statement of the financial condition of the township at any time.
>
> 55. He shall keep the accounts of the several committees as may be directed by the Finance Committee.
>
> 56. He shall present to the Board, through the Finance Committee, a detailed report of all receipts and expenditures for the month, which report shall be made monthly at the meeting designated by the Board.
>
> 57. He shall keep in a separate book, prepared for the purpose, a verbatim copy of all ordinances passed by the Board.
>
> 58. He shall attend to all correspondence pertaining to his office, keeping a complete record of the same.
>
> 59. He shall issue all permits and licenses when so directed by the Board, receiving therefor the fees prescribed by ordinance.
>
> 60. He shall pay to the Township Treasurer all moneys received by him, weekly, taking his receipt for the same, and report the amount at the next meeting of the Finance Committee.

Township Treasurer

Under the law the treasurer, whose office has been briefly discussed in chapter I, is quite independent of the board of commissioners. His duties are prescribed almost entirely by statute. In addition to being custodian of all township money, he is, by virtue of his office as treasurer, collector of all state, county, township, school, poor, and other taxes levied within the township. Before entering upon the duties of his office he is required to take and subscribe an oath of office and also give bond to the township in the sum prescribed by ordinance "and at least equal to the probable amount of the annual township tax"; he is also required to give bond to the state "in not more than the amount of taxes charged and assessed in the duplicates" for all taxes except township and school taxes.

Regarding his compensation, section 271 of the township code provides:

> The township treasurer shall receive for his duties as treasurer and tax collector for the township a sum equal to five per centum of all township taxes received or collected by him, and, in addition thereto, a sum equal to one per centum on all other moneys received or collected by him for the township, unless a different rate be fixed by ordinance of the township commissioners passed thirty days prior to his election.

In accordance with this section the compensation of the present treasurer was limited by ordinance of August 23, 1921, to 1 per cent of the amount of township taxes received or collected by him, and 1 per cent of "the actual amount of sewer rentals received or collected by him for the Township." This ordinance further provides that he is to receive no other compensation whatever in respect of any moneys received or collected by him for the township. Previous to 1922 the treasurer received 2 per cent of the amount of taxes and 1 per cent of the sewer rentals, making in 1921 a total of $7,692.52, a sum far in excess of the value of the services of the treasurer to the township.

In addition to his compensation from the township, the treasurer receives compensation from the state, the county, and the school district for collecting taxes for these units. In 1921 he received, according to generally accepted views, a total of about $16,000 in commissions. Out of the gross amount of commissions received by him, however, he is obliged to pay his employes, pay the rent of his offices, and meet all other expenses incurred by him in connection with his duties (except certain printing and postage to which later reference is made). But even after these expenses are met, and after the reduction in the compensation from the township is taken into account, the office of township treasurer is one of the most lucrative in the entire state.

Payment of public servants by commissions or fees, instead of by salaries, is a vicious relic of the past. Effective measures should be taken to put an end to this practice and to provide compensation on a salary basis exclusively.

Under the law the treasurer is personally charged with the amount of each tax duplicate, and is responsible for the collection of the tax even beyond his term of office. Until all the money has been collected and properly accounted for, or the amounts of the taxes have been allowed by the auditors, he is held responsible for it and his bond is kept alive. This practice of charging the treasurer personally with the taxes is also a relic of the past. It would be far better to have all township taxes collectible only by the treasurer actually in office.

While the board of commissioners has no jurisdiction in the matter, it would be more convenient if the treasurer were to have his office in the township building, with the secretary and the other officers and employes of the township, instead of having his office several blocks away. This would conduce to more harmonious and otherwise better administration of the township's finances. Furthermore, inasmuch as the treasurer is obliged to pay the rent of his office out of his commissions, it would seem that an arrangement whereby the township treasurer were to have his office in the township building would bring some additional revenue to the township. It may, of course, not be possible to make such an arrangement at this time on account of the crowded condition now obtaining in the township building, but this matter might be kept in mind when plans are made for new or additional office quarters for the township.

According to section 404 of the township code, the treasurer may retain out of the taxes collected the amount of the printing and postage expenses incurred in sending out tax bills and giving printed notice that the tax duplicate has been issued and delivered to him, as provided in sections 400 and 401 of the code, and the township auditors are directed to adjust these retained amounts at the time they audit the treasurer's accounts. The practice, however, has been for the treasurer to collect for these expenses by regular warrants drawn against appropriations made by the board. With this one exception the treasurer must not pay out any township money except on warrants signed by the president or the vice-president and attested by the secretary of the board, or on warrants drawn by the township auditors as provided in section 330 of the code.

Under section 260 of the code the treasurer is forbidden to apply any moneys collected by the township to any purpose other than that for which such moneys were collected. Every such misapplication is termed a misdemeanor, and upon conviction of a misapplication "the treasurer shall be punished by a fine of not less than the amount so misapplied or by imprisonment of not less than three months and not more than one year."

Under section 272 the township treasurer is required to "take charge of all township moneys, and keep distinct accounts of all sums received from taxes and other sources, which accounts shall at all times be open to the inspection of the commissioners and township auditors." This section also provides that "he shall annually state his accounts, and lay the same, together with the books and the vouchers, before the township auditors for settlement." And section 406 provides that "the treasurer shall state a separate account for each different tax collected by him."

Section 273 provides that "the township treasurer shall pay out the moneys, coming into his hands for the fiscal year, only on orders numbered in the order of their issue, signed by the president and attested by the secretary of the board, and designating the appropriation out of which the order shall be paid." This section also provides that "any township treasurer who shall pay out moneys in his hands except upon such orders, or shall pay out moneys in excess of the appropriations, shall be allowed no credit in the settlement of his accounts for the sum or sums so paid out, nor shall he have any claim or right of action against the township therefor."

As soon as possible after receiving the tax duplicate from the board of township commissioners the treasurer is required to give public notice by at least 10 written or printed notices, to be posted in public places in the township, and by advertisement in a newspaper published in the township, that the tax duplicate has been issued and delivered to him; and within 30 days after receiving this duplicate he is required to notify each taxable person whose name appears on the duplicate (a) that the taxes for the current year are payable, (b) the rate of taxation, (c) the valuation of the property and occupation of such person, (d) the full amount of taxes for which such person is liable for the current year, (e) the place and time at which they are payable, and (f) when an additional percentage will be added as a penalty. This notice is required to be mailed to the last known postoffice address of each taxable. If the treasurer fails to send such a notice to any taxable he forfeits all commissions on any taxes received or collected by him from such person. And before any allowance is made by the township auditors for commissions on taxes collected, the treasurer must make an affidavit setting forth that he has given each taxable person this notice as required by law.

The treasurer is directed to add and collect certain penalties on taxes not paid within 60 days from the time the individual notices were mailed. At the expiration of three months from the time the tax duplicate is delivered to him he must proceed to collect all unpaid taxes, and for that purpose he may appoint one or more deputy collectors.

The law provides that if the treasurer neglects or refuses to perform any of the duties of his office he shall be fined in a sum not exceeding $100, and shall be disqualified from holding the office.

Township Auditors

Briefly stated, the duties of the auditors, already referred to in chapter I, consist in auditing, settling, and adjusting the accounts of the commissioners and of the treasurer. Where any act or neglect of an officer has contributed to the financial loss of the township it is the duty of the auditors to surcharge the amount of such loss to the officer causing it.

For doing their work the auditors are required to meet annually, on the day following that on which the commissioners organize, and each one is to be paid "two dollars per diem for each day necessarily employed in the duties of his office." They are empowered to issue subpœnas to obtain the attendance of those whose accounts they are required to adjust (or their executors or administrators) and of any persons whom it may be necessary to examine as witnesses. They are also empowered to compel by attachment the attendance of any of these and also the production of books, vouchers, and papers relative to the accounts to be examined; and they may administer oaths and affirmations to all persons brought or appearing before them.[1]

The auditors are directed to complete their audit, settlement, and adjustment of the accounts of the township within as short a time as possible, and within 10 days thereafter to publish, by advertisement in at least one newspaper of general circulation, printed in the township or county, a concise itemized statement of the receipts and expenditures of the several officers for the preceding fiscal year. Also they are required to file, within the same period, a copy of such statement with the township secretary and another copy with the clerk of the court of quarter sessions of Montgomery County.

The auditors are directed to cancel all orders and vouchers presented to them, which they find have been paid, by writing the word "audited" on the face of them.

The law specifically provides that any auditor neglecting or refusing to comply with the preceding requirements shall pay a penalty of $100, to be recovered by suit, instituted in the name of the township, upon the complaint of any taxpayer, in the same manner as debts of like amount are recoverable, and that any penalty recovered shall be paid into the treasury of the township.

Where a disagreement arises between the auditors and any official or board of officials whose accounts the auditors are required to audit, the auditors may, within certain limitations, employ an attorney and fix his compensation, which is payable out of the fund the settlement of which is in dispute, by a warrant drawn by the auditors upon the treasurer of such fund, immediately upon the final settlement of the account. It is thus seen that the auditors can, within certain limits, cause money to be paid out of the township treasury, without either the consent or the signature of any commissioner or officer.

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[1] The law with reference to administering oaths and affirmations erroneously reads "the auditors of each county," instead of "the auditors of each township" (section 326 of the township code).

As would be expected, the auditors are not chosen because of any expertness or fitness for auditing work, and are, as a rule, poorly qualified to do effective auditing. The compensation provided by law—$2 a day—certainly does not appeal to persons capable of conducting audits, and the method of selecting the auditors, by election without the slightest regard for ability to perform auditing work, tends to make the audits farcical.

At the most, these audits are merely the old-fashioned fiduciary audits—a sort of post-mortem. But little, if any, consideration is given to questions of policy, system, or procedure. As a rule, very little attention is paid to matters of law, and even matters which the law particularly calls to the attention of the auditors are consistently disregarded.

The lateness with which the audits are completed is proof that they are valued very lightly and are not made primarily for the information of citizens and taxpayers. Illustrative of this lateness the following statement is significant:

> The report for the year ended January 3, 1921, has not yet been made (March 25, 1922), although nearly 15 months have elapsed since the close of the fiscal year.
>
> The report for the year ended January 5, 1920, is dated May 24, 1921, or more than 16 months after the close of the fiscal year.
>
> The report for the year ended January 6, 1919, is dated May 24, 1920, or more than 16 months after the close of the fiscal year.
>
> The report for the year ended January 7, 1918, is dated January 15, 1919, or more than a year after the close of the fiscal year.
>
> The report for the year ended December 31, 1916, is dated July 26, 1917, or slightly less than seven months after the close of the fiscal year.
>
> The reports for the four preceding fiscal years—from December 4, 1911, to January 3, 1916—are not dated at all.

These reports are contained in a loose-leaf record book which is labeled "Town Clerk." Some of them are typed on the leaves of this book; others are on paper that has been pasted to the leaves. The reports for the four fiscal years from January 6, 1913, to December 31, 1916, are not signed by any of the auditors, nor attested by the "town clerk."

That for the preceding fiscal year is attested by the "town clerk," but does not bear the signature of any of the auditors. That for the succeeding fiscal year—the one ended January 7, 1918—is signed by all three auditors and is attested by the "town clerk." The reports for the two fiscal years from January 8, 1918, to January 5, 1920, are signed by two auditors and are attested by the "town clerk."

This loose-leaf book contains, in addition to the auditors' reports and certain other records, some minutes of meetings of the township auditors. However, the latest minutes contained in this book are dated April 24, 1912, and are for a meeting of that date. It may be that minutes of their meetings are not required to be kept, but it was formerly the practice to keep them.

Apparently the auditors confine their work to an audit of the treasurer's accounts, notwithstanding that the law clearly contemplates a more complete audit. What is needed is a thoroughgoing audit—not merely one based upon the "I charge myself—I credit myself" approach. Such audits as have been made have probably been worth the money they have cost, but they are not the kind of audits that should be made.

So long as the law makes provision for amateur auditors and audits, the fragmentary audits doubtless will continue to be made. They should, however, be enlarged in scope, made more effectively, and completed as rapidly as conditions will permit. Reasonably detailed and informative reports should be made and presented to the taxpayers and citizens promptly upon completion of the audits, and upon completion of such part of them as can be finished within a short period after the close of the years to which they relate.

But in addition to these audits, and as a partial substitute for them, it would be advisable to have, once a year or oftener, an outside independent audit such as many successful private corporations regularly have. Practically the same reasons that justify these audits for private undertakings apply to cities, states, and townships; and substantially the same benefits will accrue to these governmental units as are reaped by ordinary business and financial enterprises.

The township secretary, who signs the auditors' reports as "town clerk," sits with the auditors and takes part in the audits very much as though he were an auditor, and collects the fee of $2 a day for such work. Both the sitting in with the auditors and the receiving of the compensation of an auditor—particularly the latter—seem improper, if, indeed, not illegal. Strictly speaking, such audits as the auditors make, and such as the law intends them to make, are audits of the secretary's work and accounts, at least as much as they are of the treasurer's. Certainly one should not be both the auditor and the audited.

Township Assessor, Assistant Township Assessor, and Assistant Assessors

These officers, who are a part of the finance and accounting personnel of the township, are discussed in chapter I.

TOWNSHIP REVENUES

Taxes

As is to be expected, the principal revenue of the township is derived from taxation. Under the law most real estate in the township, certain horses and cattle in the township, and "occupations" of residents of the township are taxable for township purposes.

The township's power to tax is limited not alone to these subjects of taxation, but also to specific rates on the assessed values. The several rates of taxes which the township may levy are set forth in section 397 of the township code. As amended by the act of May 16, 1921, P. L. 575, this section reads as follows:

> The board of township commissioners may levy taxes upon all property and upon all occupations within the township made taxable for township purposes, as ascertained by the last adjusted valuation for county purposes, for the purposes and at the rates hereinafter specified, namely:
>
> One. An annual tax for township purposes, not exceeding ten mills, unless the board of township commissioners by uanimous action shall, upon due cause shown, by resolution, petition the court of quarter sessions, in which case the court may order a rate of not more than five mills additional to be levied: Further provided, That if, at the hearing before the court of quarter sessions upon said petition, which hearing is hereby directed to be held not less than ten nor more than fifteen days after said

petition shall be presented, the owners of real estate having assessed valuation of fifty per centum of the total assessed valuation of real estate in said township shall, by petition, object to the making of an order for any additional tax levy, the court shall thereupon deny the prayer of said petition.

Two. A tax for the purpose of building and maintaining a suitable place for the housing of fire apparatus.

Three. An annual tax, not exceeding one-tenth of one mill, for the purpose of caring for trees planted under the supervision of the shade-tree commission, and for the purpose of publishing notices of meetings to consider the planting, removing, or changing of trees. In lieu of the tax provided for in this clause, the township commissioners may, by specific appropriation, provide for the maintenance of such trees from the general funds of the township.

Four. An annual tax so long as necessary, not exceeding fifty per centum of the rate of assessment for township purposes, for the purpose of procuring a lot and erecting a building thereon for a townhouse, and for the payment of indebtedness incurred in connection therewith: Provided, The total indebtedness for the payment of which any such tax shall be levied shall not exceed one-half of one per centum of the assessed value of real estate in the township.

This article does not include the levy of any taxes upon particular districts, or parts of any township, for particular purposes.

Thus far the township has levied taxes only for "township purposes," and has not availed itself of the authority to levy any of the three special taxes. In both 1917 and 1918 the township levied a tax of eight and one-half mills, although it could have levied a tax of ten mills. In each of the four succeeding years, 1919-1922, the township levied a tax of 10 mills, the limit allowed for "township purposes."

Prior to 1922 the township could not levy a special tax "for the purpose of procuring a lot and erecting a building thereon for a townhouse, and for the payment of indebtedness incurred in connection therewith," but the township apparently was given power to levy such a tax when section 397 of the code was amended by the act of May 16, 1921.

At this writing much uncertainty exists in the minds of the township commissioners and of the taxpayers as to the amount of taxes collectible this year by the township. Section 397 of the township code provides that "the board of township commissioners may levy taxes upon all property, and upon all occupations within the township, made taxable for township purposes, *as ascertained by the last adjusted valuation for county purposes.*" As the tax for 1922 was levied by an ordinance of February 14, 1922, and as at that time the triennial assessment of 1922 was not completed, it is contended by some that the tax cannot apply to this new assessment, but applies to the last *adjusted valuation preceding the passage of the tax ordinance.* Since there will be a considerable difference between the two assessments, the question as to which governs is of very great importance, both to the township and to the taxpayers. If past precedent is followed, the new triennial assessment will be used, notwithstanding the wording of section 397 previously quoted.

On this point the provisions of section 399 of the township code are of interest. This section reads as follows:

> As soon as possible after the receipt of the duplicate from the county commissioners, as provided in the act of May fifth, one thousand nine hundred fifteen, entitled "An act requiring the county commissioners to furnish to townships of the first class duplicates of the adjusted valuation for taxation purposes within such townships," the board of township commissioners shall deliver a duplicate of the assessment of township taxes to the township treasurer, together with their warrant for the collection of the same.

During the last five fiscal years, 1917-1921, the tax levy has totaled $1,430,146.50, or an average of $286,029.30 per year. The annual assessments, tax rates, and tax levies for these years were:

	Assessed valuation	Tax rate	Tax levy
1917.......	$27,162,075	8½ mills	$230,909.73
1918.......	27,620,965	8½ mills	234,808.82
1919.......	30,945,555	10 mills	309,455.55
1920.......	31,530,845	10 mills	315,308.45
1921.......	33,966,395	10 mills	339,663.95

The rate levied applies equally to all three taxable items. For example, if a person owns real estate assessed at $12,000, and horses and cattle assessed at $450, and his occupation is assessed at $250, he pays taxes on the total of these three items, or on $12,700. A 10-mill tax would, therefore, make his tax bill $127.

Assessments for Purposes of Taxation

All property and occupations subject to taxation for township purposes are also subject to taxation for county purposes. Rather than have the county use assessed values made for city, borough, township, or school district purposes, and rather than have one assessment for county purposes and one or more other assessments for other purposes, the law provides one assessment for all purposes, and makes the assessment of property and occupations a county function.

Accordingly, the township has no jurisdiction or authority in the matter of assessments. Whatever taxes it levies are levied on the assessments made by the county. The fact that the assessments are made by assessors who are elected solely by the voters of the township does not make the assessing a township function or give the township any control over assessments.

As previously stated, the electors of the township choose one township assessor, one assistant township assessor, and two assistant assessors, for terms of four years each, beginning the first Monday of January next following their election.

Once every three years all taxable real estate, horses and cattle, and occupations are newly assessed. In the making of these triennial assessments all four assessors are engaged. Between the triennial assessments only the township assessor and the assistant township assessor have any functions to perform, and then only during a small portion of each of the two intervening years, when they are engaged in making adjustments in the assessments as a result of new building or the destruction of property.

After the assessments are made and confirmed, the county commissioners furnish a duplicate of the assessment to the township. Under the act of May 5, 1915, P. L. 258, referred to in section 399 of the township code, previously quoted, the county commissioners are required to furnish this duplicate to the township on or before April 1 of each year, but it appears that they are not usually furnished before May or June. Every day's delay in the furnishing of the duplicates means that much longer before the taxes will be received by the township, and so means greater loss to the township.

Upon receipt of a duplicate of the assessed valuations, the township commissioners deliver a duplicate of the taxes to the township treasurer, together with their warrant for the collection of the taxes.

Real estate, horses, and cattle are supposed to be assessed at their actual value. In practice, however, they are assessed at varying percentages of their actual value, usually about one-third of their real value. "Occupations" are assessed at values ranging from $100 to $250. The former value applies to laborers and housewives, while the latter is placed upon the occupations of judges. Lawyers and physicians rank in the scale at $150.

Every now and then an agitation is begun to have real estate assessed at its actual value. Very often the county commissioners start such a movement themselves. One of these agitations a few months ago aroused widespread interest.

The arguments advanced in favor of such a change may briefly be summed up as follows: (1) The law requires that assessments be made at their full or actual value, and the law should be complied with. (2) It is easier to assess property at its actual value than at one-third or one-half or three-fourths or any other fraction of its value, for in order to arrive at the fractional value one must know or have in mind the actual value. (3) Borrowing capacities are based upon the assessed values; therefore, to assess property at, say, one-third of its real value is to limit the borrowing capacities to one-third of what the constitution and laws intend they shall be. This is an unlawful limitation by the assessors. (4) Where tax rates are limited to given ratios of the assessed value of the taxable property, as is the case in the township, to assess property at, say, one-third of its real value is to limit the taxing powers to one-third of what the laws intend they may be. This also is an unlawful limitation by the assessors.

Opposed to this change—in fact, opposed to any increase in the ratio of the assessed value to the actual value—the following arguments are met with: (1) Increasing the assessments automatically increases the amount of taxes that can be levied against the property affected, and I am opposed to having the limit of taxation increased. (2) Increasing the assessments automatically increases the borrowing capacities, and I am opposed to having them increased. (3) Increasing the assessments may mean that the assessment on my property may be increased in greater proportion than other people's assessments are increased, with the result that I shall have to bear a greater proportionate increase in taxes than will these other people. (4) Increasing the assessments may mean that the assessments in my township may be increased in greater proportion than the assessments in other parts of the county are increased, with the result that taxpayers of my township will have to bear a greater proportionate increase in county taxes than will the taxpayers of other municipalities.

As the assessors are almost completely independent of other officials they have it in their power to assess the property in their districts at a wide range of percentages of the real values. It is to be expected, therefore, that they tend to make low assessments in their districts so as to keep their district's share of county taxes low. This makes a real problem for the county, and it is no wonder that the county commissioners are anxious to have the assessments increased. It is pretty much a case of "watchful waiting" on the part of the assessors—they do not want to take any more chances on increasing their district's county taxes than they can help; particularly they do not want their district's share of these taxes increased proportionately greater than the share of other districts is increased.

In this matter of increasing the ratio of assessed values to real values, the township commissioners are to be commended for the stand they took when, on October 25, 1921, they adopted a resolution recommending that the assessors assess all property at its full value, as required by law, and pledging that they would not arbitrarily fix tax rates, but would determine the needs of the township and fix the rates accordingly.

Sewer Rents

Next to taxes, the largest item of revenue for the township is derived from what is termed sewer rents. These date from the time the first portion of the township sewer system was completed in 1904. Partly to meet the cost of construction (or, rather, the interest and sinking fund charges on bonds issued for sewer construction), and partly to meet the current cost of maintenance, a system of yearly rents was devised. The intention was that those who benefited from the construction of the sewer system were to pay directly for its construction and maintenance, instead of through the annual tax levy. Accordingly, these sewer rents included both special assessments (that is, levies against benefited properties for the cost of public improvements) and sewer rents proper, a kind of sewer taxes.

By the terms of the ordinance of March 1, 1905, the charges for the original sewer construction were dealt with in terms of three districts. Districts 1 and 2 comprised chiefly small properties, while district 3 consisted of big estates with large frontages. The following table indicates to what extent the cost of construction was charged against the properties benefited.

District	Amount equitably chargeable with due reference to size of sewers and sewage pumping stations	Amount to be charged against properties benefited
1.......	$223,946.05	$141,682.87
2.......	64,042.72	60,532.00
3.......	136,752.98	127,755.09
	$424,741.75	$329,969.96

In districts 1 and 2 the charges were assessed on a frontage basis, whereas in district 3 they were assessed otherwise. This has resulted in a great deal of dissatisfaction and misunderstanding. A number of people feel that they have paid more than their just share of the costs involved; and many assert that they have been obliged to pay more than they originally were assured they would be called upon to pay. That the cost of sewer maintenance should be met out of the annual tax levy is a view that is widely held, and one that has much to commend it. At any rate, there seems to be so much questioning regarding the matter that the commissioners might advantageously have an early and thorough analysis made of the entire situation, and have as informative a statement of the financial aspects of the sewer system prepared as conditions will permit.

We have attempted to throw some light on the disposition of the funds collected as sewer rentals. This information was not readily available, but by analysis of the expenditures for the year 1920, and an allocation of the overhead costs, we have arrived at the following amounts which represent the approximate expenditures to meet which the township justifies the collection of the annual sewer rents.

Sewer maintenance (including flushing)		$ 2,915.62
Sewage pumping		20,740.37
Expense of preparing bills for sewer rents		1,278.15
Sewage disposal (payment to the city of Philadelphia)		100.00
Sewer account:		
Interest	$ 800.00	
Sinking fund	24,550.00	
Construction of electric line	1,500.00	
		26,850.00
		$51,884.14

The total charge included in sewer rents in 1920 was slightly less than the approximate expenditures just listed. These expenditures include $25,350, or nearly half the total, for interest and sinking-fund charges to amortize debt incurred for sewer construction. Without considerable analysis it is not possible to say how much of this $25,350 should be included. However, as these items disappear, sewer rents may be reduced; but the expense of disposal of the township sewage into the Philadelphia sewers is sure to increase when the city of Philadelphia provides treatment of sewage for which the township will be charged. Accordingly, it may be that there is but little chance that sewer rents can be reduced to any extent in the future, and while they might be reduced temporarily if sinking-fund charges terminate before the payments to the city of Philadelphia increase perceptibly, it would be impolitic to reduce them and shortly after be obliged to raise them again.

It is clear that in some years, at least, the system of sewer rents has made it possible to collect more money from a great many property owners than could be secured from the main taxes, as the township had levied the full 10-mill tax which the law permitted for township purposes. As a matter of fact, the continuance of the system of sewer rents is frequently urged as a means of exceeding the tax limit. It may well be that the continuance is properly justified on other grounds entirely; but if so all the details and workings of the system should be framed and executed with full regard for the rights of all parties concerned, and as part of a system of sound township finance.

The books and reports of the township do not furnish ready information as to how much of the sewer rents represents special assessments, or as to how much is for either interest or sewer maintenance. An analysis into these items is desirable.

During the last five fiscal years, 1917-1921, the receipts from sewer rents totaled $238,099.37, or a yearly average of $47,619.88. The yearly amounts of these receipts, together with an analysis of them as between current and delinquent sewer rents, were as follows:

	Sewer rents collected during the year	Current sewer rents collected during the year	Delinquent sewer rents collected during the year
1917.......	$43,513.34	$39,112.21	$4,401.13
1918.......	43,945.59	40,360.71	3,584.88
1919.......	51,356.71	43,095.66	8,261.05
1920.......	48,213.90	44,568.96	3,644.94
1921.......	51,069.83	46,973.71	4,096.12
	$238,099.37	$214,111.25	$23,988.12

Contributions for Highway Work

Considerable township revenue results from some of the highway work which the township either does itself or has done for it. The work for which the revenue is received consists, in the main, of laying curbs, grading streets, and paving streets.

Some of the work is of a kind for which special assessments may be levied against abutting property, while other work is not of this type. Special assessments for highway work are not always levied even when they are permissible. Sometimes this is because the percentage of the cost of the work which the township would receive as a result of a levy would be larger than the township considers it fair to collect, or because of other objectionable features incident to the special assessment procedure prescribed by law. This matter is treated more fully under the heading Financing Road Improvements in the chapter on Highways (chapter III).

As a rule, where the township cannot levy special assessments, and where it could but does not wish to levy them, work is not undertaken until an amount of money satisfactory to the township is either received by it or assured in one way or another. Sometimes the township initiates a proposed piece of work and sets about to have it financed by what are called contributions; other pieces of work are initiated by interested property owners and citizens, and very often contributions are made to the township, without effort on its part, sufficient to warrant the township in proceeding with certain work.

Whether the contributions come unsolicited, or as a result of efforts on the part of the township, they are looked upon as contributions for highway work, as are also some special assessments received for highway work. Both such special assessments and contributions proper are credited when received, but not before, to an account known as the highway-contribution account, and constitute, from both a bookkeeping and a spending standpoint, a special fund. Any balance to the credit of this fund is considered available for any work of the type for which the contributions are received.

One objection to the way in which the highway-contribution account is handled is that sometimes work on a project is not begun or completed until long after the required sum of money has been paid to the township, the money in the meantime having, in effect, been used to finance other work.

Another objection is that satisfactory records are not kept to show the cost of particular projects, or portions of projects, and the amounts received therefor. This is particularly objectionable when the sums received are in the nature of deposits to cover the cost, or some determinable portion of the cost, and the persons making the deposits have been led to believe they are to get back any excess deposit.

Each distinct piece of work ought to be the subject of cost-accounting analysis, and its net financial result should be shown separately. The practice of merging all contributions and payments for such work in one account, without any analysis in terms of cost and of contributions received for each piece of work, should be discontinued at the earliest possible moment.

Special Assessments

Under the law the township may levy special assessments for opening streets, grading streets, the original paving of streets, the original setting of curbs, constructing sidewalks, constructing sewers, and certain other public improvements. The special assessment procedure is not uniform for all kinds of improvements, nor is it uniform for all improvements of the same kind. For example, several different procedures are prescribed for levying special assessments for sidewalks, one procedure for one set of conditions, another procedure for another set, and so on.

Taken as a whole, the law regarding special assessments in the township is very unsatisfactory. It needs a great deal of simplification and modernization.

As has just been pointed out, the township does not levy special assessments for some improvements, but instead secures contributions from the property owners affected.

Where special assessments are levied, only very incomplete account of them is taken in the township's books and reports; they are not in any way brought into the bookkeeping proper until they are paid, at which time the cash received is recorded as revenue.

Some of the receipts from special assessments for highway work, as stated, are placed in the highway-contribution account, where they are merged with and treated as contributions for highway work. Other receipts for highway work are placed in the highway-bond-issue account—sometimes directly and at other times through payment into and transfer from the highway-contribution account. Thus the money is used for additional highway work. Receipts for sewer work are usually credited to the sewer account, which is a sort of revolving fund for certain sewer work. More detailed information regarding special assessments for highway work will be found in chapter III, on Highways.

The practice of using special assessment money for additional work, through the means of a revolving fund of one type or another, has much to commend it. However, the law provides (section 391 of the township code) that receipts from special assessments for work financed out of a loan must be deposited in the sinking fund for the payment of the principal and interest of that loan. It appears, therefore, that the long-standing practice of the township with regard to receipts from special assessments (or for contributions, for that matter) for work financed from loans, whereby these receipts are used for additional work, instead of being placed in the sinking fund, is unlawful and should for that reason be discontinued. It may, of course, be contended that these particular receipts are not needed for the payment of the principal or the interest of the loan because sufficient taxes were levied in the loan ordinance for meeting these payments. In answer to this, however, it may be said that the law is not concerned so much with seeing that provision is made for the payment of either the principal or the interest, as it is with seeing that money derived so directly from the expenditure of the proceeds of a loan is applied to discharging that loan and its burden of interest, and not used for any other purpose.

It is true that if special assessment receipts are placed in the sinking fund an equivalent amount of the taxes levied in the loan ordinance is not needed in that fund, and therefore is released for other purposes. Nevertheless, the courts might rule, as they have in some jurisdictions, that whatever is pledged or otherwise required to be placed in a sinking fund must go in that fund until the debt has actually been discharged, or at least until there is enough money actually in that fund to discharge the debt and all interest payable thereon in the meantime, and that no money pledged or required to be placed in the sinking fund can be used for any other purpose until one or the other of these results has been accomplished. This is but one of many difficult problems that arise in connection with the payment of loans, particularly through the sinking-fund method. Some of these problems are dealt with in later sections of this chapter.

The ideal view of special assessments seems to be that whenever a public improvement of any kind causes an increase in the value of abutting or nearby property, the owners of the enhanced property should be required to meet the cost of that improvement up to the extent that their properties have been enhanced in value as a result of it. In other words, if a given improvement costs $10,000 and the value of abutting property is increased as a result by $5,000 or $8,000 or $10,000, the owners of those properties should pay the equivalent of the increased values ($5,000 or $8,000 or $10,000, as the case may be) to the township to offset an equal amount of the cost of the improvement. This is but fair to everybody, and the more nearly the special-assessment procedure of the township can be made to attain this ideal, the better will be the township's finances and the more public improvements will be made. Of course, this ideal cannot be reached without changes in the state constitution, but much progress toward attaining it can be made by securing the enactment of appropriate legislation.

During the last five fiscal years, 1917-1921, a great deal of revenue has been derived from special assessments. The township's books, however, are not in such shape as to enable one readily to secure accurate figures as to their amounts.

Contributions toward Street Lighting

For some time it has been the practice of the township, when property owners make requests for street lights near their properties, to ask those owners to contribute a part of the first year's cost of maintaining the lights. This practice does not seem to have been objectionable to the property owners, for by making a comparatively small payment they are assured of having the lights more or less permanently. It may be, however, that one effect of this practice is that lights are not placed with quite so much regard for the needs of the township as a whole as they should be. Taking all factors into consideration, it would seem to be better for the township to discontinue this practice and to place lights in the order of their relative importance to the extent that township funds can be made available therefor.

During the last five fiscal years, 1917-1921, the receipts from these contributions totaled $1,665.21, or an average of $333.04 per year. The annual amounts of these contributions were as follows:

1917	$247.16
1918	446.00
1919	210.80
1920	304.00
1921	457.25
	$1,665.21

Charges for Sewer Laterals, etc.

Property owners who wish to have their buildings connected with the township sewers are required to pay certain fixed amounts for the lateral connections and saddles, in addition to the frontage charges, as explained in chapter IV on Health and Drainage.

During the last five fiscal years, 1917-1921, the amounts received for lateral connections and saddles total $10,222.50, or an average of $2,044.50 per year. These receipts are credited to the sewer account, which is a kind of revolving fund for making lateral connections and supplying saddles and manhole frames and covers. The annual amounts of these and certain other related receipts were as follows:

	Receipts for lateral connections and saddles	Receipts for manhole frames and covers	Receipts for frontage assessments
1917	$2,077.50	$ 158.00	$1,517.60
1918	358.00	15.00	1,163.10
1919	846.50	140.00	434.93
1920	2,191.00	564.00	139.95
1921	4,749.50	450.00	246.06
	$10,222.50	$1,327.00	$3,501.64

Charges for Collection of Ashes and Rubbish

In 1921 the township began the collection of ashes and rubbish in certain sections of the township. Householders were not required to avail themselves of this service, but those who wished to have their ashes and rubbish removed by the township were required to pay from $4 to $24 a year, depending upon the cubic contents of the building and upon the particular class into which it fell. This activity of the township is still in an experimental stage and its future is uncertain.

The amount reported as being received in 1921 for this service is $3,331.75. This amount was credited to the highway-contribution account, although all the costs of rendering this service were met out of the regular appropriation to the highway committee. Inasmuch as the cost of ash and rubbish collection was met out of an appropriation from the general account, the receipts for this service should have been credited to the general account and not to the highway-contribution account.

Interest

A fair amount of income is derived from interest on bank balances and from interest on investments. As a general rule, each fund having its own bank account is credited with whatever interest is received on that account and also with whatever interest is received on any investments of such fund. Ordinarily, interest is neither paid nor credited on any of the township's own bonds that are held in the sinking fund or in any other fund of the township. However, because of the manner in which the sinking fund is administered, the benefit of such interest is obtained as completely as though it were paid directly into the sinking fund.

It is noteworthy that 4 per cent interest is being received on bank balances of the 1921-highway-bond account, and that the investment in June, 1921, of about $175,000 of highway-bond funds in U. S. certificates of indebtedness yielded a net income at the rate of 5.57 per cent per year on a portion of this investment and at the rate of 5.23 per cent on the remainder.

Building Permits

One of the township's larger sources of income at the present time is the issuing of building permits, as provided for in the township building code. Prior to the enactment of this code the township apparently received no income of this kind.

In 1920 the receipts from building permits totaled $945, and in 1921 they amounted to $2,690, making a total for the two years of $3,635.

Burial Permits

Through the township board of health the township receives $1 for each burial in the township and 50 cents for each disinterment of a body in the township. For the convenience of undertakers, provision has been made whereby the several cemeteries in the township are supplied with the permit books so that the charge may be paid and the permit received at the cemetery, as well as at the township office. Periodically the cemeteries remit to the township the amounts received by them for the permits.

During the last five fiscal years, 1917-1921, receipts from these permits have aggregated $12,798.50, or an average of $2,559.70 a year. By years these receipts have been as follows:

1917	$2,584.50
1918	3,495.50
1919	2,422.50
1920	2,408.50
1921	1,887.50
	$12,798.50

Licenses on Poles

The township receives a gradually increasing annual revenue from what it terms licenses on poles. A charge of 25 cents a year per pole is made on all telephone, telegraph, electric-light, and other poles on the public highways in the township.

During the last five fiscal years, 1917-1921, the township received a total of $6,093.25 from this source, or an average of $1,218.65 a year. The annual amounts of these receipts were as follows:

1917	$1,146.00
1918	1,220.75
1919	1,229.25
1920	1,236.25
1921	1,261.00
	$6,093.25

Fines and Penalties

The township's income is increased by fines and penalties, most of which are imposed for violations of township ordinances.

During the last five fiscal years, 1917-1921, $4,325.88 of fines and penalties were received, or an average of $865.17 per year. The annual amounts of these receipts were:

1917	$1,017.00
1918	1,168.00
1919	609.50
1920	1,049.00
1921	482.38
	$4,325.88

Miscellaneous Revenues

In addition to the revenues to which reference has already been made, the township derives income from a number of other sources. The more important of these are (1) fees for the registration of plumbers, (2) fees for filing plumbers' plans, (3) taxes on premiums of foreign fire insurance companies, (4) licenses on hacks, (5) hotel licenses, (6) a charge for flushing private sewers, and (7) rent of township property.

The revenue from fees for the registration of plumbers represents an annual charge of $1 for each plumber resident in the township who does plumbing therein, and a charge of $1 for each distinct job in the township which a non-resident plumber wishes to do.

The income from fees for filing plumbers' plans represents a charge of $1 for each plan of proposed plumbing work filed with the township as required by ordinance.

The revenue from taxes on premiums of foreign fire insurance companies is received from the commonwealth, which under the act of July 15, 1919, P. L. 964, remits to the township the net amount received from the 2 per cent state tax on the premiums which foreign fire insurance companies collected from business arising in the township. Prior to 1919 the state remitted to the township only one-half of the net amount of these taxes.

The income from licenses on hacks ranges around $350 a year. The yearly charge for auto busses is $10, and for other conveyances $5.

The revenue from hotel licenses is received through the county, and seems to be gradually disappearing. In 1921, $600.23 was received from this source, but this amount represented the revenue of the three years 1919-1921, during which, because of a legal question, it was not paid currently. Of this amount, $96 was for the year 1921, $230.01 for 1920, and $274.22 for 1919. For each of the two preceding years this revenue amounted to $360.

The charge for flushing private sewers amounts to $100 a year, and is made against a private company for flushing its sewers, which are in an adjacent township. The township also receives one-third of the sewer rentals of this system.

The rent of township property consists of $120 a year for the use of a part of the property which the township uses for a dump, and of $1 a year for the use of another part of this property.

Profitable Employment of Township Cash

The township authorities owe a duty to the taxpayers to secure the highest possible return on township money compatible with the safety and the proper availability of the money. Each extra dollar earned on township money means a dollar less of taxes or a dollar more of service to the taxpayers.

As a general rule, governmental authorities pay too little attention to the question of securing adequate returns on government money, with the result that millions of dollars of potential income is lost.

The commissioners of Lower Merion Township are to be commended for their keen interest in obtaining a proper return on township money. The investment in June, 1921, of nearly $175,000 of highway-bond funds in U. S. certificates of indebtedness, to which detailed reference is made later, and the relatively high rates of interest received by the township on certain of its bank balances, are evidences of this careful management on the part of the commissioners.

Securing a return of 4 per cent on an account subject to check (the present highway-bond-issue account) is particularly noteworthy, and is an indication of what can be done when well-directed efforts are put forth to make the township's cash productive. The return of 3 per cent on sinking-fund balances, likewise subject to check, is also commendable.

Perhaps a still greater return than this might be secured on sinking-fund balances; certainly more than 2 per cent can be obtained on all the other accounts. As the city of Philadelphia receives 3 per cent on all its bank balances, including active checking accounts, the township ought to be able to secure 3 per cent on its active accounts and more than that on its inactive balances. One account in particular—the 1913-playground-bond account—which has not been drawn against for more than five years, and which has had a balance during all this time in excess of $8,600, should have been earning much more than the 2 per cent paid on it.

To increase the return, a number of steps are available. The present depository can be asked to increase the rates, or all suitable banks can be asked to bid for the townhsip's deposits, and the deposits can be placed so as to secure the highest return.

Whatever the highest rate may be on checking accounts, a still higher rate can be secured on the township's money if no more is kept in checking accounts than is needed to meet current requirements, the remainder being placed in other forms of bank account, or invested in some appropriate manner. For instance, the investment in U. S. certificates of indebtedness, already cited, combines good return with instant marketability.

Other things being equal, a larger rate of interest is obtainable on time deposits, on deposits subject to notice, and on certificates of deposit, than can be secured on checking accounts. As much as possible of the township's uninvested money should therefore be deposited in one or more of these forms, instead of in checking accounts.

It should be a very simple matter to make and maintain a schedule or forecast of the approximate amounts of money receivable and payable from time to time, and, with this as a guide, to manage the township's cash so as to meet disbursement requirements and at the same time earn the maximum return. It will be a relatively simple matter to keep the checking accounts amply supplied. On deposits requiring notice for withdrawals, the notices—usually 10 days, two weeks, or 30 days—could be given early enough to make the needed funds available when required. It would be possible, with the guidance of the simple schedule suggested, to arrange the terms of time deposits to provide the needed funds when wanted. Certificates of deposit might fall under any one of several classes—they might be cashable at any time upon specified notice; they might be cashable upon specified notice at any time after an agreed-upon date; or they might terminate without notice at a specified time.

Any of these special forms of deposit might have either a fixed or a variable rate of interest. If the rate is fixed, it would apply no matter how long or short a time the money is undisturbed. If the rate is variable, it would probably be based upon the length of time the deposit remains, or upon the length of the notice given for withdrawals. For example, a deposit of, say, $10,000 might draw interest at the rate of 3 per cent per year if left under 30 days, 3⅛ per cent if left for 30 days, 3¼ per cent if left for 90 days, and 3½ per cent if left for 6 months or more.

The aim should be to arrange a combination of deposits and withdrawals that would produce the largest possible income for the township. Deposits should be made so as to command the highest rates of interest which the circumstances allow, and withdrawals should be made so as to insure the highest possible rates being received on the balance of the special deposits.

Where it is known that definite sums of money will not be needed for township purposes for long periods of time, and the opportuinty is available to purchase U. S. government securities (also obligations of the state of Pennsylvania or of the township itself) maturing at or before the time the money is likely to be needed, it would be highly advantageous for the township to purchase such securities, unless the yield thereon would not equal the income obtainable from the best alternative proposition. Where the maturity of such securities runs beyond the time when the township will need the money, and they can be purchased from thoroughly responsible banks or bankers under a repurchase agreement that would assure the township a larger net return than would otherwise be obtainable, it would be desirable for the township to make the purchase.

The purchase on June 2, 1921, of $172,000 face value of U. S. certificates of indebtedness is an excellent illustration of the advantages to the township of making temporary investments with its surplus money.

In return for the $101,381.79 which the township paid on June 2 for $100,000 of 6 per cent certificates ($100,000 par value, $93.75 premium, $1,288.04 accrued interest) the township received on August 16 $102,542.12 ($100,000 par value, $31.25 premium, $2,510.87 accrued interest), making a net gain or income of $1,160.33 on the $101,381.79 investment. This $1,160.33 net profit is exactly equivalent to interest at the rate of 5.57 per cent per year for the 75 days during which the money was invested. In return for the $72,586.84 which the township paid on June 2 for $72,000 of 5½ per cent certificates ($72,000 par value, $67.50 premium, $519.34 accrued interest), the township received on October 14 $73,980 ($72,000 par value, $1,980 accrued interest), making a net gain or income of $1,393.16 on the $72,586.84 investment. This net profit of $1,393.16 is exactly equivalent to interest at the rate of 5.23 per cent per year for the 134 days during which the money was invested. As the highest rate of interest then offered to the township on this $173,968.63 by the township's depository was 4 per cent, the township secured a much larger return by investing the money as it did.

The greater the flexibility in the management of the township's cash, the more productive that cash can be made. If all the cash were in a single working fund, available to meet all disbursement requirements, irrespective of the appropriation or fund against which the payment is chargeable, much more could be accomplished in putting the money to work than is possible with the money split up into a number of distinct funds. Accordingly, it is recommended that the township's cash be pooled in as few working funds as the law permits, and that, where lawful to do so, loans or advances be made between funds whenever a greater return on township money can thereby be secured. It is especially recommended that such inter-account advances be made whenever they will enable the township to avoid the borrowing of money from other sources at a cost greater than the income obtainable on the township money most available for the loan.

Loans and Sinking Fund

Power to Borrow Money

Under the law the township has power to borrow money for township purposes. In other words, the township is not required to meet all its expenditures out of its revenue. However, the township has not power to borrow money indefinitely, for both the state constitution and the statutes set limits on the amount of debt that may be incurred.

If the township is a municipality within the meaning of the act of June 5, 1915, P. L. 846, and of article IX, section 15, of the state constitution, it may, under certain conditions, incur a net debt[2] equal to 10 per cent of the assessed valuation of property taxable for township purposes. On the other hand, if the township is not a municipality within the meaning of both this act and this constitutional provision, its net debt limit is 7 per cent of the assessed valuation of the taxable property (section 3 of the act of April 20, 1874, P. L. 65, as amended by the act of May 1, 1909, P. L. 317).

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[2] By "net debt" is meant the gross debt less certain deductions therefrom allowed by law, such as cash in the sinking fund and the amount of such gross debt held in the sinking fund (section 5 of the act of April 20, 1874, P. L. 65, and the court decisions thereunder). The "gross debt" includes bonds authorized but unissued, as well as the gross amount of bonds outstanding.

The commissioners, however, may create debt, without the assent of the electors, so long as the total net debt so created and outstanding does not exceed 2 per cent of the assessed valuation of the taxable property. With the assent of the electors they may create debt so long as the total net debt, including that created without the assent of the electors, does not exceed the 7 or 10 per cent limit, as the case may be.

There seems to be a question whether or not the township is limited in the purposes for which it may incur debt. Sections 391, 395, 397, and 1221 of the township code bear more or less directly on this question.

Section 391 contains the following provisions:

> Nothing in this section shall prevent any such township from borrowing money and thereby increasing its indebtedness to the extent, and in the manner, in which municipal districts are now authorized to incur or increase the same, *for the purpose of permanent improvements.* In authorizing the issue of obligations or securities for such loans, the township commissioners shall provide that moneys subsequently derived from assessments upon parties benefited by such improvements shall be deposited in the sinking fund for the payment of the principal and interest of said obligations.

Section 395, as amended by the act of March 17, 1921, P. L. 36, reads as follows:

> Section 395. The board of township commissioners may borrow money and issue evidences of indebtedness therefor. The total amount of indebtedness so created shall not exceed two per centum of the county valuation of the property within the township, without the assent of the electors of the township. The rate of interest on any such indebtedness shall not exceed six per centum. No indebtedness shall be incurred or expenditure authorized except by ordinance. To authorize the expenditure of more than one hundred dollars, a special resolution of the board shall be necessary.
>
> When any township of the first class shall borrow money and issue bonds or other securities therefor, except in the case of the giving of notes for temporary loans as may be authorized by law, the commissioners shall sell the same to the highest bidder after public notice by advertisement once a week for three weeks, in at least one newspaper of general circulation published in the county in which such township shall be situated. No bid for such bonds or securities at less than their par value shall be accepted.

Section 397, as amended by the act of May 16, 1921, P. L. 575, authorizes the levying of a special tax in the following words:

> Four. An annual tax so long as necessary, not exceeding fifty per centum of the rate of assessment for township purposes, for the purpose of procuring a lot and erecting a building thereon for a townhouse, and for the payment of indebtedness incurred in connection therewith: Provided, the total indebtedness for the payment of which any such tax shall be levied shall not exceed one-half of one per centum of the assessed value of real estate in the township.

Section 1221 of the township code, as amended by the act of May 16, 1921, P. L. 575, reads as follows:

> Section 1221. For the purpose of procuring a lot of ground and erecting a building thereon, as provided in the preceding section of this act, the commissioners or supervisors may borrow money at a rate of interest not exceeding six per centum and issue bonds therefor.

It will be noted that section 391 seems somewhat to imply that indebtedness is only to be incurred "for the purpose of permanent improvements." It is doubtful, however, whether the wording of this section would be construed to prohibit the borrowing of money for other than permanent improvements. It is also somewhat doubtful whether specific authorizations to borrow money for particular purposes, such as that contained in section 1221 for the borrowing of money "for the purpose of procuring a lot of ground and erecting a building thereon" for a townhouse, would be construed to prohibit borrowing for other purposes than permanent improvements, any more than they would be construed to prohibit borrowing for those kinds of permanent improvements for which specific authorization to borrow is not conferred by law.

Even if it should be held that the township cannot use its borrowing power for other than permanent improvements, it is not at all likely that the courts would prevent the creation of "temporary loans" for current expense purposes, meaning thereby loans maturing not later than the fiscal year succeeding their creation. Section 395 seems to imply that the township has the right to borrow money on temporary loans, for the words "except in the case of the giving of notes for temporary loans as may be authorized by law" are found in this section. It is true that this is not a direct authority for the creation of temporary loans, particularly inasmuch as the qualifying words "as may be authorized by law" are used. Just where the statutory authority is for the creation of temporary loans as distinct from the so-called permanent loans does not appear. But under the court decisions, and under section 5 of the act of April 20, 1874, P. L. 65, it would seem that the township has power to create any amount of temporary loans for the payment of which revenue is applicable within one year. Furthermore, unless the laws specify a minimum period for a loan the township would have the right to fix whatever minimum it chooses within the maximum period set by law for loans for the particular purpose.

Borrowing Policy

Taken as a whole, the township's borrowing policy has been conservative. Beginning with the year 1903, the township has put out 10 distinct issues of bonds, of which 3 were for sewers, 4 for highways, 2 for township lots and buildings, and 1 for playgrounds. Of these 10 loans, the 1 for playgrounds was arranged to mature all at one time, whereas the other 9 loans were arranged to mature in from 2 to 7 series. The 4 highway bond issues had maximum maturities ranging from 5½ years to 7½ years. Each of the other 6 loans was issued with a maximum maturity of 30 years, the maximum term for which bonds of the township could be issued.

The township is to be commended for its conservative policy governing the terms for which highway bonds have been issued. Under the law the township could have issued 30-year bonds for highway purposes, instead of short-term bonds running from 5½ to 7½ years. In this, the township authorities evidently have appreciated the desirability of paying off debt within the life of the improvement resulting therefrom, and have faced the issue squarely, rather than take advantage of their power to saddle on future generations the burden of meeting the principal and interest of debt for which they receive nothing.

It is a sound and just principle of township finance that the taxpayers of each year should fully meet the current expenses of such year, and should not place the burden of paying for any of the services enjoyed by them upon the taxpayers of future years. This means that all expenditures, with the possible exception of expenditures for land, buildings, and other more or less permanent property or improvements, should be met out of current revenues; that if borrowing is resorted to it should be only for the purpose of acquiring property or making improvements of a lasting character; and that such borrowing as is resorted to should be repayable within the probable useful life of the property or improvement.

This is recommended as an absolute minimum standard of finance for the township. In view of the disadvantages incident to the creation of debt, however, particularly the great loss due to interest, state tax, and other costs incurred in the creation and administration of debt, it is recommended that as liberal a policy with regard to financing capital outlays out of revenues be adopted as can be borne. Particularly is it recommended that work of a periodically recurring nature, such as highway work, sewer construction, etc., be financed out of current revenues year after year, and that no debt be incurred for such work except when an unusual amount is about to be undertaken. Even then, it is desirable to finance as much as possible of this work out of current revenues, and to resort to loans only for that part of the cost which really cannot be borne otherwise. Of course, any debt incurred for such work should be payable as speedily as conditions will permit, but in any event before the useful life of the improvement expires.

In addition to establishing and maintaining high standards controlling the purposes for which debt is and is not to be incurred, and the maximum term of debt, the township should squarely face and solve several other problems incident to the creation, administration, and payment of debt. Several of the more important of these problems are dealt with in the succeeding sections of this chapter.

Assuming Taxes on Township Bonds

Most of the bonds issued by the township have provided, in one way or another, for the payment by the township of the full amount of the interest which the bonds call for, notwithstanding any requirement by state law that the township retain part of the interest in payment of taxes levied by the state against the bonds. In other words, the bonds have contained what is popularly known as a "tax-free covenant," the object of which is to free the bondholders from both the payment and the burden of more or less definite kinds or amounts of taxes by placing the burden of them on the debtor.

The township has issued its bonds on this basis, no doubt, in order to make them of greater appeal to investors, and to secure a better price for them than would likely be secured were the bonds not issued "free of taxes." Strictly speaking, the township has had in mind, when it covenanted to pay the taxes on the bonds, only the four-mill state tax that is now effective, but the tax-free covenant has been so worded as to include practically any kind or amount of taxes levied against the bonds by the state. For example, the $300,000 of highway bonds of 1921 provide for the payment of "interest at the rate of five per centum (5%) per annum, payable semi-annually on the first days of May and November in each year at the office of The Merion Title and Trust Company of Ardmore, at Ardmore, Pennsylvania, *free of all Pennsylvania taxes (except succession or inheritance taxes)*." Earlier issues of the township's bonds contained still broader tax-free covenants, in that they did not except succession or inheritance taxes.

Many private corporations have been heavy losers as a result of making tax-free covenants of too general and sweeping a nature, with the result that now they either do not agree to pay any taxes levied on their bonds, or they specify quite definitely the limits as to the kinds and amounts of taxes they will pay. The experiences of both private corporations and governments, and the possibilities for loss and harm inherent in the practice, should cause the township to consider the question seriously, to decide how far it is necessary and how far it is willing to go in the matter of assuming taxes, and to word future bonds and bond ordinances so as to set as definitely as possible the limits as to the kinds and amounts of taxes that the township is to assume.

Certainly neither the bonds nor the bond ordinances should contain so sweeping a tax-free covenant as that which the township has been using. The township should have no difficulty in marketing its bonds if it issued them free of the present four-mill tax, designating this specifically, or by making them free of particular kinds of taxes up to, but not beyond, such limits as the township cares to assume.

For the township to issue bonds with a tax-free covenant such as the one now used by it or with any covenant that is not definitely limited, may place the township in the disadvantageous position of having to pay a much greater amount of taxes than was contemplated at the time of issuing the bonds.

There is also the legal question of the validity of a covenant that makes, or might make, the combined tax and interest burden exceed the maximum rate of interest which the law sets on township debt, which by the act of March 17, 1921, P. L. 36, is 6 per cent, but which previously was 5 per cent, except that loans for township lot and building purposes could have been issued at 6 per cent interest. This very question of the aggregate of the tax and the interest rate was before the courts in the case of Irwin v. Township of Mifflin, 26 D. R. 39, in which the court decided that where the legal rate of interest for township debt was 5 per cent, the township could not issue 5 per cent bonds and in addition agree to pay the four-mill state tax, for that was to agree to pay 5.4 per cent interest—a greater amount of interest than the law permitted.

While the township has not issued any bonds at a rate of interest which with the four-mill tax would exceed either the legal rate at the time the bonds were issued or the present legal rate, the tax-free covenant is so broad in its wording that the township may some day be faced with the question as to whether it legally can pay the full amount of taxes which the holder of the bonds feels the township has agreed to pay. The township might be prohibited from paying the full amount which it has covenanted to pay, and therefore would be placed in the embarrassing position of defaulting in its obligations, with the result that its credit would be seriously hurt.

Levying Taxes to Pay State Taxes on Township Bonds

The last two issues of township bonds have been issued under authority of ordinances which levied annual taxes to pay whatever state taxes might have to be met by the township under the tax-free covenants contained in the bonds. In neither of these issues was the tax for this purpose made separate and distinct from the tax levied for the principal and the interest of the debt, nor is there anything in the ordinances to indicate how much, or what proportion, of the total of a given year's tax is for this purpose. As a result, the entire amount of the tax goes into the sinking fund, and that portion of it which is not used in payment of the state tax remains in the sinking fund to meet the principal and interest of the debt.

Although these loan ordinances do not indicate how much of the taxes levied therein has been levied to meet state taxes on the bonds, calculations show that each of these ordinances levied exactly enough taxes to meet the principal of the bonds, the maximum amount of interest that would be payable on the bonds were they outstanding throughout their entire terms, and, in addition, the maximum amount of state taxes, at the four-mill rate, that would be payable on the bonds were they outstanding in the hands of taxable holders throughout their entire terms.

Obviously, unless the rate of state tax is increased, this is more than the township is likely to have to pay on any issue of its bonds. One reason for this is that usually some of each issue will be owned during all or a part of the term of the bonds by non-taxable holders, such as the township itself, mutual savings banks, mutual insurance companies, charitable institutions, and non-residents of Pennsylvania.

Of the last issue of bonds, the $300,000 highway loan of 1921, the township has owned $25,000 almost from the moment of their sale. This means that no state tax is payable on them, and that, accordingly, the amount included in the annual tax levied by the township to meet such state tax goes into the sinking fund where it is not needed at all.

Also, if all the bonds of a loan are not issued at the beginning of their term, they will not all be outstanding during the entire time for which the tax was levied to meet the state tax. This situation has arisen with the last two bond issues. Of the last loan, $50,000 worth was not issued until more than a half-year after the beginning of their term, thus effecting a saving of more than $100 in the state taxes. Yet this amount has been included in the appropriation to the sinking fund, which is more than amply provided for otherwise. Of the other of the two loans, $50,000 worth has not been, and will not be, issued. Yet in 1920 and 1921 a total of $400 was paid into the sinking fund to meet a tax that was not payable, and remains in that fund, along with $4,250 paid into it for interest that will never be payable. This year an adjustment was made to exclude from the sinking fund any additional amounts for state tax and interest on this $50,000 of canceled bonds, but the excess payments of 1920 and 1921 totaling $4,650, exclusive of any sinking-fund earnings thereon, still remains in the sinking fund.

If the rate of the state tax is increased it is extremely unlikely that the tax levied by the township would equal the tax which the township would have to pay. This means that an amount of taxes has been levied which will be either greater or smaller than the amount of taxes actually needed. In the former event, more money than will be needed is set aside in a special fund for the payment of a group of items which includes state taxes. In the latter event, the shortage has to be made up by additional appropriation of revenues or, more probably, by withdrawing money from the "principal, interest, and state-tax fund" which has been placed in that fund for either principal or interest. In either event, the merging of the tax for the state tax, with the tax for the principal and the tax for the interest, results in placing either more or less money in the sinking fund than was intended.

If it is desired to continue levying taxes to meet the state taxes, it would be better to levy such taxes separate and distinct from all others. It would be still better to levy them in such manner as to make unnecessary the appropriation of more money for state taxes of any year than is actually needed in that year. The levy might be worded somewhat as follows:

> For the payment of state taxes on these bonds there is hereby levied in each year during which such taxes are payable a tax of so much of four mills on the dollar of the face value of the bonds as shall be needed to pay the state tax due in such year.

To the extent that it is lawful to do so, it would be well (1) to make adjustments so as to get out of the sinking fund all amounts now there for state taxes (and for interest), (2) to discontinue the practice of including in the sinking-fund appropriations any amounts for state taxes (or for interest), and (3) to make specific appropriations for the state taxes and for the interest, so that only the net amount needed will be appropriated for these purposes.

Registered Bonds versus Non-registered Bonds

All the bonds issued by the township since 1902 have been coupon bonds—that is, they have had coupons attached for the periodical interest payments, which coupons are payable to the bearer upon presentation. In all issues but one, and to some extent in that issue, the principal of the bonds is also payable to the bearer.

As a general rule, bonds whose interest and principal are payable to the bearer are more readily marketable, and therefore command a better price, than registered bonds, whose principal and interest are payable only to the registered owners; and owing to their greater adaptability to the needs of investors, bonds that are freely interchangeable from one form to the other, at the holder's option, are even more readily salable. If, in addition to "bearer bonds" and "registered bonds" being interchangeable, the holder has the option of having the principal of his coupon bonds registered, so that it will be paid to him and not to whoever presents the bonds for payment, the bonds will have a still wider appeal. Another element of appeal, though a less important one, is the interchangeability of denominations, whereby, for example, a $1,000 bond could be exchanged for 10 $100 bonds, or 10 $100 bonds be exchanged for two $500 ones.

Other factors being equal, the wider the appeal of an issue of bonds, the better will be the price these bonds will bring. Either a higher price in terms of par or face value, or a lower rate of interest, will result from making the bonds appeal to different types of investors.

There are, however, other considerations that should be taken into account besides the higher price obtained for the bonds or the lower rate of interest at which they are issued. These two factors of price and rate of interest, after all, merge into the one factor of the true or effective rate of interest at which the bonds are issued, which is the exact reverse or complement of the yield, or effective income, at which they are purchased.

If the township did not covenant to pay taxes on its bonds, the only important items to consider would be the additional cost and annoyance incident to the preparation, issuance, and safeguarding of both more and a greater variety of bonds and blanks, including an increased amount of record-keeping. The township should endeavor to meet the varying and changing needs of investors, if by so doing the effective rate at which the bonds are sold is lowered sufficiently to offset the cost and annoyance of providing the factors that bring about the lowered rate. Even though it could not be demonstrated that the cost and annoyance were thus offset, it might be well to provide the more important of the factors in all bond issues, for the reason that they undoubtedly would create a much greater demand for the township's bonds on the part of investors, and so influence the price favorably to the township.

When the township does covenant to pay taxes on its bonds, and the amount of taxes the township is called upon to pay depends upon who owns those bonds, rather than upon the amount of the bonds themselves, there is very strong reason for the township to provide machinery to enable it to know and to prove which of its bonds are not subject to the state tax.

Under the present laws, the four-mill state tax is not levied on the township's bonds per se, but against certain kinds of owners, on the basis of the amount of the bonds held by them; and where the township has agreed to pay the tax for the taxable holders, it must pay the four-mill tax on all the bonds which it cannot prove are held by non-taxable owners. In other words, where the township is unable to prove that a particular bond is exempt from the four-mill tax, the legal presumption is that the bond is held by a taxable owner, and the township must pay the tax.

This means that for every $100,000 of bonds that are held by non-taxable owners, but which the township cannot prove to be so held, the township loses $400 each year—a considerable item in the course of a short time.

The most effective way to secure the desired information seems to be to issue only fully registered bonds, both the principal and the interest thereon being payable only to the registered owners. A slightly less effective way, perhaps, is to issue bonds that are registered as to principal, but that have interest coupons payable to the bearer upon presentation. The latter is not so certain as the former to enable the township to know who holds its bonds, for the reason that delay in completing the transfer of the bonds on the official records will not interfere with the collection by the owners of the periodic interest as it falls due. Delay in completing transfers may, in the long run, however, make no substantial difference to the township, for the delays that are unfavorable to the township may be offset by those that are favorable.

Taken all in all, the township probably would be the gainer if it issued only two types of bonds—fully registered bonds, and bonds registered as to principal—and made them freely interchangeable. It is quite likely that whatever loss the township might sustain by reason of a higher effective rate of interest on such bonds will be much more than offset by the saving in the state taxes.

After all, the yearly cost to the township on its bonds is not the rate of interest which the bonds themselves call for on their face, nor even the effective rate of interest on the bonds, but rather the effective rate of interest, plus the amount of the taxes, and plus the various overhead or administrative costs incident to the creation and administration of the debt. When it is considered that the matter of whether or not the township is obliged to pay the present state tax on township bonds means a possible difference of four-tenths of one per cent in the annual burden of an entire issue of bonds, it will be appreciated that the township should take effective steps to make all the savings possible in this direction.

This brings up the further question whether or not the township could not effect a considerable saving in the state taxes, if it made continuous and determined efforts to have non-taxable holders purchase its bonds, both at the time of their issuance and in the market later on. Various steps are available for accomplishing this and substantially equivalent results.

Premiums on Bonds

Taking everything into account, it would seem to be most advantageous for the township to issue its bonds at the lowest rate of interest that will secure exactly par for them. In other words, if the market for the township's bonds is on a 4¼ per cent basis—that is, if 4¼ per cent bonds of the township would bring exactly par, whereas a lower rate of interest would fail to bring par—the township should issue 4¼ per cent bonds instead of bonds at a higher rate.

As it is difficult to forecast with accuracy the rate of interest which would bring par, and as unusual rates of interest, such as 4.11 per cent, or even 4.15 or 4.20 per cent, are looked upon with disfavor by most investors, and therefore have a narrower market and bring a lower relative price than bonds at common rates of interest, it cannot be expected that the township will always be able to arrange a rate of interest on an issue of bonds so as to produce exactly par for them and at the same time not sacrifice any of their value. As the township is prohibited by law from selling bonds at less than par, it is certain that premiums will be received on at least some issues.

Disregarding psychological and speculative elements that sometimes affect the price of bonds, the more the rate of interest which a bond bears exceeds the market rate for that grade of security, the greater will be the premium received; and the longer the term of that bond, the larger will be the premium. To illustrate, in a 4 per cent market a 10-year bond bearing 4 per cent will sell at par, bearing 4½ per cent will sell at 104.09, and bearing 5 per cent will sell at 108.18; whereas if, instead of having 10 years to run, 20 years will elapse before maturity, the 4 per cent bond will still sell at par, while the 4½ and 5 per cent bonds will bring, respectively, 106.84 and 113.68. These facts are shown in readily comparable form in the following statement:

	Bonds having 10 years to run			Bonds having 20 years to run		
Market rate of interest	4% bonds	4½% bonds	5% bonds	4% bonds	4½% bonds	5% bonds
4%	100.00	104.09	108.18	100.00	106.84	113.68
4½%	96.01	100.00	103.99	93.45	100.00	106.55
5%	92.21	96.10	100.00	87.45	93.72	100.00

It is clear, therefore, that premiums are reduced by reducing the margin between the bond rate and the lower market rate, and are increased by increasing that margin.

What to do with premiums that are received is the problem before the township commissioners. Even though premiums cannot be eliminated on the bonds that are sold, they can be reduced to relatively insignificant size as regards an entire issue or flotation of bonds. For example, if an issue of $500,000 of bonds is bid for at 104, thus making a total price of $520,000, of which $20,000 represents the premium, only so much of the proposed bond issue need be sold as would be required to bring in the $500,000 sought (or that amount plus a fraction of the smallest denomination of the bond issue in question). If the smallest denomination is $1,000, only $481,000 face amount of the bonds need be sold, for at 104 that amount of bonds will bring in $500,240, or only $240 more than the sum desired to be raised. If the smallest denomination is $100, only $480,800 face amount of bonds need be sold, for at 104 that amount of bonds will produce $500,032, or just $32 more than is wanted. Accordingly, instead of having a premium or excess borrowing of $20,000, there will be a premium, in terms of the entire issue, of only $240 or $32, depending upon the denomination of the bonds.

Wherever it is possible to avoid premiums completely—that is, by issuing bonds at par—without sacrificing any of their value, they should be avoided; and wherever it is possible to eliminate them in the sense of bringing in more money than was authorized to be borrowed, they should be eliminated by selling the smallest amount of bonds that will produce the desired sum. The township authorities should therefore endeavor to fix a rate of interest on its bonds as little above the market rate as may be practicable, and should offer an issue of bonds with the provision that no more of that issue will be sold than may be necessary to secure the sum desired to be borrowed.

The sale of $500,000 of bonds at 104 is not the borrowing of $500,000, but is the borrowing of the entire sum received, or $520,000. Of this $520,000 the so-called principal of $500,000 is repayable at the time or times the bonds mature, and the other $20,000 is repayable in graduated amounts at the times the so-called interest is payable. The premium is not income or revenue—it is part of the borrowing. Of the so-called interest that is paid periodically, a portion is real interest and the remainder is a repayment of that premium or excess borrowing. If a $1,000,000 bond issue bearing 5 per cent is sold on a 4½ per cent basis—sold on a 4½ per cent market—the first semi-annual interest payment of $25,000 includes $23,973.39 real interest (one-half of 4½ per cent of the price or loan of $1,065,483.81) and $1,026.61 toward repayment of the $65,483.81 premium or excess borrowing.

By selling only so much of a bond issue as may be necessary to obtain the sum desired to be borrowed, the largest possible portion of the premium is, in effect, applied to the cancelation of bonds before their issuance. This use of premiums is by far the most commendable one.

Where a premium is actually received in excess of the sum intended to be borrowed, whether because this method is not employed, or because a portion of the gross premium cannot be absorbed in this manner, such premium should either be applied toward the payment of the principal of the bonds for which it was received, or else be used toward financing work for which it is both lawful and advisable to issue bonds. Most emphatically, it should not be used for current expenses, for to do so is equivalent to borrowing money for current expenses and placing upon the taxpayers of future years the burden of meeting expenditures that should be borne entirely by the taxpayers of the present year.

When the commissioners or the electors authorize the issuance of, say, $100,000 of bonds, they have in mind the obtaining or borrowing of that sum of money, rather than the sale of that face amount of bonds. Accordingly, no more money ought to be raised on an authorization than was intended. The device of premiums should not be manipulated or used to obtain an excess or hidden borrowing. Too often municipal authorities have arranged the rate of interest on bond issues with an eye to securing large premiums, knowing that in this manner they could obtain more money than was really intended to be borrowed, and that, because of the mistaken notion that premiums are profits or income, they could spend the money for most any purpose, instead of being limited to the purposes to which the law restricts the use of the borrowed money.

Sinking Fund

Obviously, when the township borrows money it must agree to repay that money at some time or other. Under article IX, section 10, of the state constitution the township is required at or before the creation of a debt to levy "an annual tax sufficient to pay the interest and also the principal thereof within thirty years." The state laws have the same requirement, and provide that the proceeds of such tax shall be inviolably pledged to the payment of the principal and interest of the debt for which the tax was levied.

In compliance with these constitutional and statutory requirements, the township has followed the common practice of levying a tax in each ordinance authorizing the creation of a debt.

As pointed out in the section on Levying Taxes to Pay

State Taxes on Township Bonds, the township levied for the last two loans an annual tax for principal, interest, and state tax combined. For all earlier loans the township levied an annual tax for principal and interest combined.

Under the law the proceeds of these taxes are required to be reserved and applied exclusively to the purposes for which they are levied. Thus in each of the last two loans the proceeds of the annual taxes are required to be reserved and applied exclusively to the payment of the principal, the interest, and the state tax of that particular loan; and for each of the earlier loans the proceeds of the annual taxes are required to be reserved and applied exclusively to the payment of the principal and the interest of that particular loan.

Reserving or setting aside these taxes for their particular purposes creates a sinking fund of some type. If the tax moneys exceed the current payments to which such moneys may be applied, a sinking fund of the accumulating type is created. On the other hand, if all the tax moneys are required to meet current payments to which such moneys are applicable, none of the problems peculiar to accumulating sinking funds present themselves.

In view of the many disadvantages incident to the ordinary or accumulating sinking fund, it is desirable to avoid such a fund wherever practicable; and where an accumulating fund cannot be avoided it is desirable to reduce it as nearly as may be practicable to the basis of the non-accumulating type and to make its operations as simple and sound as conditions will permit.

The principal object of a sinking fund is to "sink" or pay debt; in fact, that is the only object of a true sinking fund. Therefore, the sooner and more directly the money in a sinking fund pays debt, the better that sinking fund is.

There is nothing in either the constitution or the laws that necessarily requires an *accumulating* sinking fund. There is, of course, the requirement for the levy of the annual tax, and the requirement that the proceeds of that tax be applied exclusively to the purposes for the payment of which it is levied. But there is no requirement as to the amounts of the annual taxes. All that is necessary is the levy of an annual tax sufficient to meet the interest and the principal as and when due.

If, therefore, annual maturities are arranged, the township could levy the annual tax so as to provide each year the amount needed to meet that year's payments of principal and interest, and thus have no portion of that tax to reserve for future years.

Ordinarily the method by which this result is accomplished is termed the serial method. But an issue of bonds may be serial in form and still have an accumulating sinking fund to provide for its payment. This situation obtains for all the township's bonds except one issue, and that one, the playground loan, a straight 30-year loan, has an accumulating sinking fund of the conventional type.

Accordingly, the township has not arrived at the ideal practice with its bond issues, but has gone a long way in that direction.

On the assumption that the township is required to levy an annual tax which is annually to cover that year's interest and, in addition, provide something toward the principal of the debt, and on the principle that each year's tax should cover that year's interest and a just share of the principal of the debt, the township should arrange the maturities of all its bond issues so that a proper share of each issue will mature each year, and should levy the annual tax so as to provide each year just the amount needed to meet that year's maturities of both principal and interest.

By so doing, none of the problems of accumulating sinking funds—in fact, no problem that is ordinarily thought of as a sinking-fund problem—would call for solution. Furthermore, no appropriations or payments would need to be made to any sinking fund; each year's payments for principal and interest would be made directly from the general-fund appropriation, just as salaries and invoices are paid.

To illustrate how the accumulating sinking fund can be avoided, let us consider a $1,000,000 5-year 4 per cent loan. If the loan be repayable in 5 equal annual instalments of principal, a schedule of that loan would show the following information:

Year	Amount of principal unpaid at the beginning of the year	Amount of principal paid at the end of the year	Amount of interest paid during the year	Amount of principal and interest paid during the year. Amount of the annual tax
1	$1,000,000	$200,000	$40,000	$240,000
2	800,000	200,000	32,000	232,000
3	600,000	200,000	24,000	224,000
4	400,000	200,000	16,000	216,000
5	200,000	200,000	8,000	208,000
	..	$1,000,000	$120,000	$1,120,000

If, however, the payments of principal are so arranged that the annual burdens for principal and interest combined will be as nearly equal as is possible when the bonds are of $1,000 denomination, the schedule would show the following information:

Year	Amount of principal unpaid at the beginning of the year	Amount of principal paid at the end of the year	Amount of interest paid during the year	Amount of principal and interest paid during the year. Amount of the annual tax
1	$1,000,000	$184,000	$40,000	$224,000
2	816,000	192,000	32,640	224,640
3	624,000	200,000	24,960	224,960
4	424,000	208,000	16,960	224,960
5	216,000	216,000	8,640	224,640
	..	$1,000,000	$123,200	$1,123,200

If the payments are so arranged that the annual burdens for principal and interest combined will be as nearly equal as is possible when the bonds are of $100 denomination, the schedule would show the following information:

Year	Amount of principal unpaid at the beginning of the year	Amount of principal paid at the end of the year	Amount of interest paid during the year	Amount of principal and interest paid during the year. Amount of the annual tax
1	$1,000,000	$184,600	$40,000	$224,600
2	815,400	192,000	32,616	224,616
3	623,400	199,700	24,936	224,636
4	423,700	207,700	16,948	224,648
5	216,000	216,000	8,640	224,640
	..	$1,000,000	$123,140	$1,123,140

Whichever plan is decided upon, the loan ordinance would levy the annual taxes in terms of the amounts shown in the last column of the statement for that plan, or preferably in terms that would require only such an amount to be appropriated for a year as would actually be needed to meet that year's maturities of principal and interest. Various factors might operate to alter the amounts actually needed in given years—for example, the whole bond issue might not be sold at one time.

The tax levy might well be in terms somewhat as follows:

> There is hereby levied an annual tax, beginning with the year ——— and continuing throughout the term of the said bonds, equal to the amount of the principal and the interest payable in the year for which the said tax is hereby levied.

The blank after the word "year" should be filled in with the number of the year, or with words to the following effect: "succeeding the one in which any of the said bonds are issued." This latter wording is, perhaps, more flexible than the designation of a year by its number.

The township is to be commended for not levying the annual tax in terms of a millage (for example, one-fifth of a mill) on the assessed valuation of the taxable property. The practice followed by the township, whereby a specified sum of money (in dollars and cents) is levied, is much superior to the millage plan, but the plan suggested just above is still better.

It is unfortunate that the annual tax for the last two bond issues covered the state tax on the bonds as well as the principal and the interest. As pointed out previously, these loan ordinances neither levied separate taxes for the three purposes nor indicated how much of any of the annual taxes was for any one of the three purposes.

This is in conformity with the practice which the township has followed consistently in levying annual taxes for the principal and the interest of its bonds. The ordinances have simply specified each year's tax.

The aggregate of the taxes levied for each bond issue has generally been arrived at by calculating the total amount of the interest that would be payable on the particular loan if the whole of the loan were actually outstanding during its entire term, and then adding this interest total to the principal of the loan. For the last two loans the total taxes were arrived at by adding to this total of principal and interest the aggregate amount of the state tax that would be payable on them if they were outstanding and subject to the four-mill tax during their entire terms.

Since the total taxes are paid into the sinking fund, and the amounts paid out of it for interest and state tax are frequently less than the amounts put into the fund for those purposes, it is clear that the sinking fund receives and keeps money that is not needed. These excess receipts, combined with income from bank balances and investments of sinking-fund money, result in piling up money in the sinking fund that really should not be there.

Very probably there is money in the sinking fund today that was placed in that fund for bond issues that have matured and been paid. But the township has no accounts, schedules, statements, or reports showing whether this is so.

Strictly speaking, the taxes or other items paid into the sinking fund for a given loan constitute an individual sinking fund, and when that loan has matured and been paid, and all interest and state taxes to which such money is applicable have also been paid, the money remaining in that fund is freed and becomes available for general township purposes.

Inasmuch as money in the sinking fund earns, as a rule, less than the township is obliged to pay on its borrowings, it is undesirable to put or to keep any more money in that fund than is absolutely required. To put or to keep unnecessary money in that fund is equivalent to borrowing money at one rate and investing it at a lower rate.

On some loans the township has been paying the state tax out of the sinking fund, although no money was put into that fund for this purpose. For other loans more money is appropriated and paid into the sinking fund than the taxes levied therefor, notwithstanding that the taxes are more than ample to meet all possible sinking-fund requirements, even without any interest thereon while in the sinking fund.

There is urgent need for a detailed analysis of the sinking fund's transactions, for keeping accounts and schedules to show the status of each sinking fund, and for making such adjustments for errors and surpluses as may be lawful.

BUDGET PROCEDURE AND APPROPRIATIONS

The township's budget procedure may be briefly described as follows. Within the first several weeks of each year each committee of the board of township commissioners prepares a statement of the expenditures of that committee for the preceding year, analyzed in terms of the titles of the appropriations out of which the expenditures were made, and also in terms of a somewhat popular classification of the purposes or objects for which the expenditures were made. Opposite these amounts is written the committee's estimate of the sum needed for each of the appropriations and purposes for the current year, new appropriations and purposes being, of course, written in also. This statement, after being approved by the committee, is submitted to the finance committee. The finance committee, in addition to preparing a similar statement for the expenditures made under its immediate supervision, goes over and revises the statements of all the committees, in the light of the information available to it, including an estimate of the funds available for the year. It then drafts an ordinance to appropriate the amounts which it considers proper, and submits the ordinance with its approval to the board of commissioners. This ordinance is then considered by the commissioners, amended if a majority of them think necessary, and passed and advertised as other ordinances are passed and advertised.

However, as is a common practice with governments, the tax rate, rather than the needs of the township, apparently is made the prime consideration. As a result, the tax rate is more or less arbitrarily determined, thus setting the limit of the appropriations that can be made. After this the task is to cut the appropriations to fit the revenues, rather than provide revenues to fit the needs.

In this process some items naturally bear the cut. The cut falls almost entirely on the appropriation to the highway committee, that appropriation being the largest single one, and the one that can be treated either niggardly or magnanimously without greatly disturbing the smooth running of the township government. At any rate, the "leavings" are appropriated to the highway committee, be those leavings large or small. This practice is, perhaps, the most objectionable feature of the township's budget procedure.

The appropriations may perhaps be called "lump-sum" appropriations, for they are in relatively large amounts and in but a few items. No attempt is made to divide the sums appropriated into detailed items. The emphasis is primarily on the fact that a specified amount is given to a particular committee to meet the expenditures under its supervision, or is appropriated for a particular purpose which has seemed important enough to justify separate or specific provision for it. No attempt has been made to have a systematic or scientific or classified plan of appropriations. But in view of the system of committee government that obtains in the township, and the absence of noticeably bad results from the method followed, we hesitate to recommend the adoption of appropriations of either the segregated or the definitely classified type.

The appropriation ordinance for the year 1922 (January 2, 1922-January 1, 1923) is a typical example and will serve for purposes of illustration. It was adopted by the board of commissioners on February 14, 1922, and reads as follows:

AN ORDINANCE

Making an Appropriation for the Expenses of the Township Government for the Current Fiscal Year

The Board of Township Commissioners of the Township of Lower Merion, DO ORDAIN:

That for the expenses of the Township Government for the fiscal year beginning on the first Monday of January, 1922, and ending on the first Monday of January, 1923, the following amounts are hereby appropriated for the specific purposes indicated, viz.:

For Sinking Fund for Principal, Interest and State Tax on Township Bonds of 1914 and 1919	$13,392.00
" Repair and Maintenance of Highways, including $56,725 to Sinking Fund for Principal, Interest and State Tax, Highway Bonds of 1921	203,127.38
" Maintenance of Police Department	86,185.00
" Lighting of Highways	21,000.00
" Maintenance of Fire Hydrants	12,500.00
" Fire Protection and Appropriation to Volunteer Fire Companies	6,500.00

For Operation and Maintenance of Health and Drainage Department, including $25,350 to Sinking Fund for Principal, Interest and State Tax on Sewer Bonds of 1903, 1904 and 1916	$69,684.00
" Care and Maintenance of Playgrounds, including $1,680 to Sinking Fund for Principal, Interest and State Tax on Playground Bonds of 1913	11,000.00
" Board of Health	15,600.00
" Administration	16,000.00
" Treasurer	4,000.00
" Building Regulations Committee	5,000.00
" Legal Expenses	2,500.00
" Interest	1,000.00
" Appropriation to Public Libraries	1,750.00
" Construction and Maintenance of Highways (Balance of Highway Bond Issue of 1921)	100,072.08
" Highway Contribution Account	43,161.39
" Purchase of Land for Playgrounds (Balance of Bond Issue of 1913)	9,004.83
" Purchase and Improvement of Township Lot (Balance of Bond Issue of 1919)	1,028.26
" Sewer Construction and Lateral Connections	25,000.00

Approved by the Board, 14th day of February, A. D. 1922.

JOSEPH O. KERBAUGH,
President.

Attest:
EVAN L. JAMES,
Secretary Pro Tem.

It will be noticed that there are 20 distinct items; that the ordinance does not show any totals or sub-totals; that except for the three items having explanatory matter in parentheses and the item Highway Contribution Account no indication is given of the fund out of which the several items are appropriated or of the nature or amounts of the various resources that are appropriated; and that three of the items include within themselves what is in effect an appropriation to the sinking fund for principal, interest, and state tax on specified bond issues.

The item Highway Contribution Account represents the $18,161.39 cash balance in that account at the beginning of the fiscal year, plus $25,000 of "estimated receipts" of that account during the year. All this $18,161.39 cash balance, however, and about $2,000 of this year's receipts, has since been transferred to the highway-bond-issue account. The $25,000 of estimated receipts is admittedly factitious. This amount is "estimated" because under the law appropriations must precede expenditures, and the commissioners wish to have an appropriation large enough to cover any receipts that that account (or fund) may have during the year.

The $25,000 item Sewer Construction and Lateral Connections represents the $3,085.33 cash balance in the sewer account at the beginning of the fiscal year, plus $21,914.67 of factitious estimated receipts which are appropriated in order to have an appropriation large enough to cover any receipts that the sewer account may have during the year. In former years the appropriations for this account were made in a separate ordinance, but on the same factitious basis.

It is the practice to limit the expenditures from both the sewer account and the highway-contribution account to the cash standing to their credit, and not to consider the appropriations in question as being really effective beyond the amounts of such cash. However, it appears to be lawful to make expenditures up to the amounts of the appropriations.

The amounts appropriated to the three items having explanatory matter in parentheses represent the cash balances standing to the credit of the bond accounts mentioned in the parentheses.

It would probably be better practice to make distinct appropriations for each sinking fund, rather than to combine two or more such appropriations in one amount or to include them merely as parts of appropriation items.

The first item, for sinking fund on township bonds of 1914 and 1919, includes $200 to cover state tax on the 1914 bonds, although the township tax for these bonds did not make provision for state taxes and there is no requirement that any amount be appropriated to the sinking fund therefor.

The $25,350 designated for the sinking fund for the three sewer loans includes $1,200 to cover state tax on the sewer bonds, although the township taxes for these bonds did not make provision for state taxes and there is no requirement that anything be appropriated to the sinking fund therefor, and in spite of the fact that the township could not be called upon to pay more than $1,148 for state taxes on these bonds.

The $1,680 designated for the sinking fund for the playground loan includes $80 to cover state tax on this loan, although the township taxes for this loan did not make provision for state taxes and there is no requirement that anything be appropriated to the sinking fund therefor.

The $56,725 designated for the sinking fund for the highway bonds of 1921 represents the amount of the township tax for 1922 for the principal, interest, and state tax of such bonds, but of this amount $5,750 was advanced by the general account to the sinking fund last year. Accordingly, this appropriation should be less by that amount, or the sinking fund should make a refund for the advance in question. Even with the refund made, this sinking fund starts out with considerable money that will never be needed in that fund. This $56,725 includes more than $2,000 for interest and state tax for last year that the township will never have to pay and which the sinking fund does not need, as it is otherwise amply provided for.

The first 15 items total $469,238.38 and represent an appropriation of the estimated revenues of the general account for 1922. These estimated revenues are shown in the following copy of the official estimate:

APPROXIMATE RESOURCES, 1922

Balance cash, January 3, 1922		$30,056.86
Outstanding taxes	$33,257.03	
Less Auditors' allowance on 1920 taxes (approximate)	2,500.00	
		30,757.03
Penalty on delinquent taxes		1,000.00
Tax levy for 1922, $33,966,395 @ 10 mills		339,663.95
Sewer rents for 1922	$54,228.98	
Less discount (approximate)	2,000.00	
		52,228.98
Sewer rents delinquent 1916 to 1921, inclusive		5,738.56
Board of Health		2,400.00
Fines		500.00
Contributions on street lights		450.00
Preston Drainage Company (flushing sewers)		100.00
Tax on foreign fire insurance		400.00
Interest		900.00

Permits collecting garbage	$ 8.00
Rent of land, Centennial Avenue	160.00
Building permits	3,000.00
License on poles	1,275.00
License on hacks	300.00
Miscellaneous receipts	200.00
Hotel licenses	100.00
Total	$469,238.38

Of the items on this estimate, the first represents the cash balance of the general account at the beginning of the fiscal year; the amounts shown for outstanding taxes, tax levy for 1922, sewer rents for 1922, and delinquent sewer rents represent accounts receivable of which only a part will be collected during the year; and the other items represent fairly close estimates of the general-account receipts from the several sources.

To the extent that the four items representing accounts receivable are included at face or nominal values, instead of for the estimated receipts of the year from them, the statement is faulty and contrary to the provisions of section 390 of the township code, which intends that the board of commissioners estimate the actual receipts and appropriate the estimated amount.

As to whether or not the appropriations should be of the lump-sum type or of the segregated or detailed type, it is recommended that in general the appropriations continue to be made in lump sums. Where particular funds can lawfully be used only for given purposes, however, appropriations of such funds should be distinct from all other appropriations, except that appropriations for sinking-fund instalments and for payments of debt other than through sinking funds should be distinct from all other appropriations. Or where it is desired for any reason specifically to set aside a given amount for a particular purpose, this intention should be expressed by an appropriation distinct from all others. Also, where the sums available for appropriation are divided among funds, the appropriations should indicate out of what fund each is made.

The lump-sum method of appropriation, modified as indicated above, seems very appropriate for the township as it is at present organized. This method permits of great flexibility, cuts down bookkeeping to a large extent, and eliminates much that is in the nature of red tape. With a continuance of the close supervision of expenditures exercised by the committees and by the board, lump-sum appropriations ought to prove satisfactory, particularly if the recommendations in this report for improving the bookkeeping system and financial reports are adopted.

There is some doubt whether or not section 390 of the township code intends that the board of commissioners is to set forth in the annual appropriation ordinance, or at least in some ordinance, the board's estimates of the revenues available for appropriation. It would be good practice, however, to do this.

In the past neither the estimates prepared by the individual committees, nor those approved by the finance committee, nor those approved by the board of commissioners, have been preserved as a matter of information or record. It is desirable that a record be kept of these estimates, particularly those approved by the board of commissioners. These latter estimates form, in effect, a schedule or detail of the appropriations themselves, and are in the nature of allotments of the appropriations, or forecasts of the manner in which the appropriations will be spent. It would also be good practice to make monthly comparisons of the expenditures and the estimates. As a matter of fact, it would be well to allot each appropriation by purposes or objects, and by months or groups of months, and keep as completely within the allotments as circumstances permit. In this way some of the most valuable objectives of a budget system would be attained without the disadvantages incident to detailed appropriations.

The existing method of making the yearly appropriations after the year has begun, although common, is inherently undesirable. However, as section 390 of the township code provides for making the appropriations "within sixty days after the first Monday of January," it would be unlawful to make the appropriations before the first Monday of January. There seems to be no good reason, however, why the appropriations cannot be made much nearer the beginning of the year than has been the custom. Nothing in the law would prevent consideration of the budget, or in fact taking every step except the actual passage of the appropriation ordinance, prior to the beginning of the year. In this way the appropriation ordinance itself could be passed within the first two or three days of the year. This would certainly seem possible in those years when the personnel of the board of commissioners is not scheduled to change. In years when the board is scheduled to change, much good would be accomplished, and no harm would be done, if all steps except the final one were taken prior to the beginning of the year. It would greatly expedite matters, as well as be excellent policy from other standpoints, for the old board to confer with those who are to enter the board in January on all the steps incident to the preparation and adoption of the budget. In this way the new members would become much better acquainted with the needs and finances of the township and be much less likely to prevent early passage of the appropriation ordinance. In view of the fact that not more than six days of the year can elapse before a new board of commissioners takes office, and in view of the close supervision exercised by the board over expenditures, under the plan here suggested but little opportunity would be available for making expenditures that the board would not sanction under the present practice.

A real budget system presupposes having the authorizations or appropriations fully decided upon at or before the beginning of the period to which they relate, so that the spending and disbursing authorities may have before them at that time the main financial chart of the period, and not be in the position of a captain guiding his ship without either rudder or compass.

To make the appropriations as late as February 14, as in the current year, is to leave the township without funds for more than two months, for the appropriation ordinance does not become effective until 10 days have elapsed after advertisement of the ordinance once a week for two weeks. The result is that purchases are made, contracts are entered into, and township money is paid contrary to law, or else necessary purchases, contracts, and payments are postponed with unfavorable results. If for any reason it is found that the appropriations made earlier differ from those that would be made under the present practice, the annual appropriation ordinance could, of course, be amended at any time to effect the desired changes.

The adoption of an improved bookkeeping system should result in better classifications of both sides of the budget picture and should in other ways contribute toward improved budget prcoedure.

Accounting and Related Matters

Bookkeeping System

The bookkeeping system of the township is crude and totally inadequate to meet its needs. No attempt is made to keep double-entry books, and such accounts and records as are kept are largely of the memorandum type, there being but few proofs or checks within the accounts and records themselves. Such bookkeeping may have answered fairly well some years ago, when the township was small and its government simple; but it falls lamentably short of answering present-day requirements.

The township ought to keep a complete set of double-entry books, in which all assets and liabilities of the township are currently recorded and controlled. Anything less than this will not serve the needs of the township.

It is believed that no greater amount of time will be required to keep such accounts and to prepare the needed periodical reports, than is now devoted to keeping the present accounts and records and preparing the present reports. Under the existing situation a considerable amount of energy and time are necessarily wasted; under a well-organized double-entry system this time and energy would either be saved or be devoted to essential, smooth-running, productive work.

With records so incomplete as the present ones, errors are difficult to avoid, statements and reports cannot be prepared with dispatch, and uncertainty abounds in every direction.

As this indictment of the present methods is so obviously merited, it is unnecessary to cite here specific instances of their shortcomings, or to attempt to describe the present methods. Elsewhere some of the shortcomings and methods have been referred to because of their relevance to the topics there considered.

The secretary, under whose immediate jurisdiction these matters come, has expressed himself as being in complete sympathy with our views, and evidences a strong desire to have a thoroughly modern system of double-entry bookkeeping installed. It is but fair to him, however, to state that we do not consider that he is responsible for the inadequacy of the existing methods. For years he has had a tremendous burden to carry, and until comparatively recently has had to get along without sufficient help to keep the office work up to date. While he has served as secretary, the business of the township has increased tremendously, yet the old methods have been retained, just as they are in so many governments and private enterprises, until a sudden realization of their inadequacy causes them to be displaced.

Fiscal Year

For a long time the fiscal year of the township has coincided with what may be termed the political year. Beginning with 1913 the political years have run from the first Monday in January of one year to the first Monday in January of the following year. Immediately prior to that time the political years ran from the first Monday in March to the succeeding first Monday in March, except that because of changes in the law one "year" ran from March 6, 1911, to December 4, 1911, and another ran from December 4, 1911, to January 6, 1913.

It is obvious, of course, why the financial reports—in fact, all reports—have been prepared for political years. The emphasis has been on the terms of office of the commissioners, and the reports have been viewed primarily as reports of the commissioners and officers, rather than as reports of the township. But little consideration has been given to the desirability of having reports for periods of twelve calendar months each.

It is recommended that financial reports be prepared from now on for calendar years, and that in addition certain financial reports be prepared for each calendar month. Such reports will be much more comparable and informative.

It is also recommended that, so far as seems desirable and possible, the fiscal transactions of the township be arranged or timed to coincide with or to fall within the fiscal year.

There seems to be nothing in the law requiring the financial reports to be made for periods that would conflict with the calendar year; but even if there are conflicting requirements, both the prescribed reports and the reports for fiscal years can be made. The latter reports are, after all, the major ones and should control wherever possible.

Financial Reports

Periodical reports showing the more essential information regarding the finances and financial transactions of the township are a necessity.

Once a year, or oftener, the citizens and taxpayers are entitled to have fairly detailed financial reports, so that they may be in position to judge the kind of service their elected representatives are rendering, and so that they may better understand and judge the township's financial affairs.

While these same reports are of distinct value to the township commissioners themselves, more frequent, more detailed, and somewhat different kinds of reports are also needed by the commissioners, if they are creditably to discharge the grave financial responsibilities attached to their administration of the affairs of the township.

The commissioners have to a large extent appreciated the need and value of both kinds of reports, those primarily for the citizens and taxpayers, as well as those for their own special guidance. For years the township has prepared and published for the information of its citizens and taxpayers annual reports in which fairly detailed information as to the township's finances is given. At this writing (March 27, 1922) the report for the year ended January 2, 1922, has not been published in either the newspapers or in pamphlet form, but we understand that early publication in pamphlet form is intended. The report for the preceding year is available in pamphlet form, having been printed and made available for distribution in January, 1922. The delay of a year in printing this report is unfortunate, for much of the value of these reports is lost unless they can be issued promptly after the close of the period to which they relate. It is still more unfortunate that the reports for the four preceding years have not been printed in pamphlet form. The world war has been blamed for this long gap in the printed reports, but it is very doubtful whether the major part of this blame has been rightly placed. A little more appreciation of the value of printing the annual reports in convenient form would doubtless have prevented this gap in the series.

For years the commissioners have had presented to them at their meetings financial reports of a different type from the annual reports to which reference has been made. The purpose of these intermediate reports is to furnish the commissioners essential information regarding the finances of the township currently, and thereby to act somewhat as a chart or guide for their use. These reports supply information as to cash balances, cash receipts, cash disbursements, appropriation balances, expenditures, bills to be approved for payment, and other more or less current matters.

These reports furnish a great deal of pertinent information to the commissioners, and assist them materially in administering the finances of the township. However, they fall far short of being as informative and valuable as they ought to be. Most of the shortcomings of these reports seem to be due to the lack of a double-entry bookkeeping system. Other shortcomings exist because the reports do not cover substantially equal periods of time, thus preventing the information which they contain from being thoroughly co-ordinated and harmonized.

The reports represent periods of time ranging from as little as one week to as much as five weeks; and at times some of the detail reports are presented at one meeting and cover a period ending at or just before the meeting, while others covering a totally different period of time are presented at a later meeting. As a result, neither the detail reports nor the reports as a whole are comparable as regards periods of time, and for some periods the detail reports cannot be consolidated so as to show the whole picture.

In addition to having all the detail reports cover the same period, preferably the calendar month, the reports should be so arranged as to exhibit the desired information primarily from the standpoint of the township as a whole, rather than from the standpoint of particular officers, committees, funds, or other units. Whatever information is wanted regarding the various units ought to be shown as a part of, or supplementary to, the main information, and should be in strict harmony therewith. And, of course, the reports ought to be planned to exhibit clearly all the essential information which a thorough-going double-entry system of bookkeeping would provide.

Balance Sheets

Once a year or oftener the township should prepare and publish a statement showing in somewhat condensed form all the assets and liabilities of the township. Periodical statements of this sort are commonly known as balance sheets and are an integral part of any correct double-entry system of bookkeeping, in which they would be taken for granted. They can, however, be prepared without the aid of such a system, though they are less likely to be correct and inclusive.

Careful inquiry has failed to disclose the existence of any statement which could properly be termed a balance sheet of the township. The township's annual reports contain statements of the "resources" and the "liabilities" of the township, but a glance at them is sufficient to demonstrate that they fall very far short of being balance sheets. They do not purport to include either all the assets or all the liabilities, and accordingly do not show the real financial condition of the township.

Of the assets, only cash, securities, and portions of the amounts receivable for taxes, sewer rentals, and sewer assessments are shown. Of the liabilities, only the bonded debt and temporary loans have usually been shown. The inclusion in the last annual report of payments withheld on completed contract work, and of the deposit accompanying a bid, was the first exception for some years.

The total of the asset portion of the annual statement is designated as "resources available to meet outstanding indebtedness" and the excess of this total over the total shown for "liabilities" is termed the "net debt of the township."

Nothing is included in the statement to show what the township has acquired and owns as a result of the creation of the debts that are included therein. None of the township's holdings of land, buildings, or equipment is accounted for, and amounts owing for purchases, accrued pay-roll, accrued interest on township debt, and miscellaneous liabilities are not shown.

As a result of the absence from these statements of so much important information, comparisons between them are of vastly less value than they should be, and comparisons between the amounts shown as the "net debt of the township" are almost valueless. Furthermore, complementary statements showing the why and wherefore of the change in the financial condition of the township are practically out of the question. The statement as of January 2, 1922,[3] as contained in the report of the finance committee for the year ended that date, is as follows:

RESOURCES

Cash on Hand, January 3, 1922:		
Balance Cash, Sinking Fund	$36,201.20	
“ “ General Account	30,056.86	
“ “ Sewer Account	3,085.33	
“ “ Highway Bonds, 1921	100,072.08	
“ “ Highway Contribution	18,161.39	
“ “ Playground Bonds, 1913	9,004.83	
“ “ Township Bonds, 1919	1,028.26	
		$197,609.95
Securities Purchased by the Sinking Fund:		
Sewer Bonds, 1903, Series "D"	$3,000.00	
“ “ 1903, Series "F"	12,000.00	
“ “ 1904, Series "C"	10,000.00	
“ “ 1904, Series "D"	8,000.00	
Highway Bonds, 1921, Series "A"	25,000.00	
United States Government 4% Liberty Bonds	15,000.00	
		73,000.00

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[3] Erroneously dated January 3, 1922.

Balance Outstanding Taxes:		
1915, 1916, 1917	$1,425.79	
1918	560.77	
1919	956.79	
1920	5,353.03	
1921	24,960.65	
		$33,257.03
Balance Outstanding Sewer Rents:		
1916	$369.88	
1917	251.09	
1918	318.45	
1919	617.63	
1920	719.00	
1921	3,462.51	
		5,738.56
Amount Due on Liens for Sewer Assessments		2,079.25
Resources Available to Meet Outstanding Indebtedness		$311,684.79
Net Debt of Township		515,607.02
		$827,291.81

LIABILITIES

Sewer Bonds, 1903, Series "D, E & F"	$130,000.00	
Sewer Bonds, 1904, Series "B, C & D"	150,000.00	
Sewer Bonds, 1916, Series "A & B"	40,000.00	
Playground Bonds of 1913	20,000.00	
Township Lot & Building Bonds, 1914	50,000.00	
Township Lot & Building Bonds, 1919	100,000.00	
Highway Bonds, 1921	300,000.00	
Reserved Percentage on Highway Work Completed	32,291.81	
Union Paving Co., Deposit Accompanying Bid	5,000.00	
		$827,291.81

The lack of a double-entry system of bookkeeping is primarily responsible for the meagerness of these statements, but it is not surprising that they are so primitive and incomplete when it is considered that little or no effort is made to keep records to show the omitted assets and liabilities. Inquiry has failed to disclose the existence of any inventory or statement of the township's land, buildings, and equipment; and the township's books do not carry accounts to indicate the ownership of such assets or the existence of various liabilities of the township.

Income-and-Expense Statements

In the section devoted to Balance Sheets reference was made to a statement to show the why and wherefore of the change in the financial condition of the township. By this is meant a statement showing the income and expense of the township—the factors which tend to increase or decrease the net worth (*i. e.,* excess of assets over liabilities) of the township.

Such a statement should accompany each balance sheet. A balance sheet shows the financial condition as at a given time, while an income-and-expense statement furnishes an analysis of the transactions for a period of time, so as to explain and account for the change in the net financial condition (net worth, surplus, or deficit) during such period.

The preparation of a balance sheet generally presupposes the preparation of an accompanying income-and-expense statement also. The latter statement could be prepared without preparing a balance sheet, but ordinarily a balance sheet and an income-and-expense statement go hand in hand, as each complements or tends to prove the other.

Inasmuch as the township has not prepared balance sheets, it is not surprising that income-and-expense statements have not been prepared either. No statement in the annual reports comes very close to being an income-and-expense statement. Considerable rearranging, analysis, and adjustment of the material in the annual report would be necessary to formulate such a statement, and various matters not included in the report would have to be taken into account and incorporated in some way.

A cash account (or statement) shows the flow of cash, both inward and outward, but, like a notes-receivable account or an accounts-payable account, bears no definite relation to the increase or the decrease of net worth. Nor does either an appropriation account or a statement of expenditures bear any definite relation to variations in the net worth. Included in the expenditures are expenditures for the acquisition of property, for the payment of debt, for investment, for transfers between funds, and for expenses, only the last of which affects net worth.

In addition to its value with relation to balance sheets, an income-and-expense statement would be one of the most valuable and informative financial statements that could be prepared for the township, particularly if it be detailed or supported by itemized statements. Both the income (revenue) and the expense elements could be analyzed in a variety of ways, to furnish different kinds of information. For example, the income could be analyzed by kinds or sources (taxes, sewer rents, special assessments, fines, etc.), by funds, and by committees or other organization units; and the expense could be analyzed by object (personal services, materials, supplies, interest, etc.), by character (operation, maintenance, etc.), by funds, by activity or function (protection to persons and property, highways, conservation of health and sanitation, etc.), and by committees or other organization units.

After all, income and expense are among the major considerations of township finance. Their current control and analysis are of great significance. Accordingly, the township's books should be arranged to record and analyze them from day to day, and frequent summaries or statements of the analyses should be prepared and studied.

Property and Inventory Records

The township owns considerable property in the form of land, buildings, and equipment. Yet no permanent record of a bookkeeping or accounting nature is kept of any of the various kinds or pieces of property. That there is so complete an absence of such records is due primarily to the fact that the township does not have a double-entry system of bookkeeping. The most elemental double-entry system would include at least a certain amount of this kind of record, and would to some extent control and account for property acquired by the township.

A double-entry bookkeeping system, the installation of which is recommended in another part of this chapter, should contain suitable provision for an adequate control of township property.

Strictly speaking, bookkeeping is concerned with the recording and control of specific assets, liabilities, and rights.

This fact should not be lost sight of. The monetary value at which a given asset or liability is recorded in the books is, after all, a mere token of the particular asset or liability, a more or less necessary medium or standard for reducing all elements to a somewhat comparable basis. Obviously, the values expressed in an ordinary bookkeeping system represent vastly different things. Some express cost price, some selling price, some present cash value, some future cash value, some merely nominal or face value, and so on.

Whatever recording of property is done in the double-entry system, there is need for other and more detailed records than the books proper provide. For each item of property, or each group of items, there should be a record which, in addition to tying up and agreeing with the main books, should so describe the property in question as to identify it, should show date and source of acquisition, cost or value at time of acquisition, where located, in whose custody, and other information, including particulars of property consumed or parted with.

These property or inventory records—particularly those of supplies, materials, and other stores—should be kept as nearly up to date as possible; and at frequent intervals physical inventories should be taken, the results compared with the property records, and necessary adjustments made.

Property records of the type referred to are as necessary for the control of stores and equipment as are records whose object is to control cash and securities. Apart from this question of control, however, there is the desirability—if not the necessity—of having available the kind of information which the records give, and of having proof of proper stewardship.

Purchasing

At present the township follows no definite procedure in the making of its purchases of supplies, materials, equipment, etc. Purchases are made in a variety of ways. They are made in person, by telephone, and by letter. A great many of the purchases are made by or through the secretary, but a large proportion are made directly by others—commissioners, officers, and employes. As a general rule, no record of a purchase is available in the secretary's office other than the invoices received for the goods.

It is recommended that to the fullest practicable extent (1) all purchasing be centralized in the secretary's office; (2) all purchases be made by orders written on standard order blanks; (3) all orders be either signed or countersigned by the secretary; (4) a carbon copy of each order be retained as a permanent record in the secretary's office; (5) another carbon copy be furnished to the department or unit for which the purchase is made; (6) each order be charged as soon as issued as an encumbrance against the particular appropriation affected; (7) suitable books or forms be provided for recording each receipt of goods; and (8) invoices received be checked against both the purchase order and the receiving record, suitable reference being made on the purchase-order copy to both the receipt of the goods and the passing of the invoice, and on the receiving record to both the purchase order affected and the passing of the invoice. If a township manager be provided for, all purchase orders should, of course, be approved by him before becoming effective.

Apart, however, from the bookkeeping aspects of this question the equally important one of judicious purchasing deserves consideration. Under the existing practice, most purchases are made on a hand-to-mouth basis, with but little regard for the quantity of the same or similar goods that will be needed by other departments or units of the township, and with but little consideration of the advantages of standardization of purchases.

Centralized purchasing can and ought to remedy these conditions to a very large extent. An organized system of purchasing would endeavor to ascertain the probable needs of the entire township government for a considerable period of time; schedule these needs; reduce the number of items by eliminating unimportant differences between the items as originally specified; plan the purchases so as to secure all the worth-while advantages of such things as quantity purchases and seasonal purchases; plan the purchases so that when an article is needed it will be on hand; and make all purchases at the lowest prices obtainable.

The purchase of auto trucks and passenger automobiles should be given special attention. There seems to be no real justification for the present lack of standardization in this equipment. Each of these items should be confined to as few kinds, sizes, and types as possible. Tires, tubes, parts etc., can then be purchased much more advantageously, and the more frequently needed items can be carried in stock. A great deal less money needs to be tied up in supplies for three identical trucks or cars than for three that are different.

Too frequently the township's trucks and cars have been out of commission because of the lack of needed articles. At times this has been inexcusable, for the need of the particular articles should have been anticipated; at other times, however, the lack of standardization has been responsible, for it is hardly to be expected that the township would carry in stock a sufficient variety of certain articles to meet the needs of all the machines, although it could easily carry them in stock if each were adapted to several machines.

The purchase of coal ought also be given special attention. As everyone knows, there are very great differences in kinds and sizes of coal. The township uses enough coal to warrant its being purchased on a scientific basis. Consideration ought therefore to be given to the relative value of different kinds, grades, and sizes of coal—particularly the heating, or B. T. U., values; and it should be purchased on definite specifications, framed with regard to the particular use to which the coal is to be put. Obviously, also, purchases of coal ought to be made so as to secure the most favorable prices, as well as to insure having the proper coal on hand when it is needed.

Stores System

Coupled with the need for centralized purchasing there is need for a stores system. Where supplies are purchased in advance of their need, they should be treated as stores and kept under appropriate accounting control.

With the exception of such petty supplies as lead pencils, blotters, and ink, property or inventory records of the various articles should be kept. When stores are received, the appropriate accounts should be charged, and as the goods are consumed or transferred to other departments or units, suitable entries thereof should be made. The accounts should be kept so as to show the disposition or custody of each commodity. An effective system can be installed and maintained with relatively little red tape.

A good stores system will be a great help in the making of purchases, will supply pertinent information regarding purchases and consumption of different commodities, will prevent thefts and waste, and will be of service in a variety of other ways.

Correspondence and Filing

Closely related to the bookkeeping system—in fact, to some extent a part of it—is the system of filing. Canceled checks, contracts, invoices, statements, reports, applications, incoming letters, copies of outgoing letters, and various other documents and papers need to be retained. Simply keeping them is not enough. If they are to be available when wanted, they must be filed to facilitate finding them when occasion arises for their use.

As a general rule, it is the best practice to file each kind of document as a group, distinct and apart from all other documents. For example, canceled checks are usually kept distinct from other papers, and contracts are often placed in a separate file. The essential thing, however, is so to file the material that it can be secured readily when wanted, and so that it will serve all necessary purposes with a minimum expenditure of time and effort.

The principal faults of the present system are that the filing is not sufficiently centralized, the material is filed in an inadequate number of groups, and not enough control is exercised to see that material is properly attended to and filed. Frequently some needed letter, contract, or opinion of the township solicitor either cannot be found or is located in the possession of some commissioner or employe, instead of in the files.

A definite system of filing should be adopted, and each group (or sub-group) of material should be kept where it is most needed. Unless the material ought clearly to be somewhere else, the secretary's office is the place for it. If for any reason material is temporarily removed from its place in the files, a sheet or slip containing a suitable notation of the removal should be inserted in its place, and a tickler or follow-up memo should be made, to see that the material is being properly cared for and that it gets back to the files as soon as possible.

Owing to the committee system of government which exists in the township, much of the incoming correspondence is referred to the committee chairmen for attention, and two or more weeks often elapse before reply is made to an incoming letter. Occasionally letters are overlooked for long periods of time, and not infrequently they are not replied to at all, or do not get into the files. Recently this matter of correspondence has been given closer attention than formerly, and it is becoming more generally the practice not to let original letters pass out of the offices, but to make copies of them when they need to be referred to outside persons.

To insure that letters will not be overlooked and that they will reach the files in due time, it is recommended that all incoming mail be received at the secretary's office; that all correspondence and important notices be stamped with the date—or date and hour—of receipt, and be registered in a book or books kept for that purpose, each letter being given a distinctive registration number (though the numbering is not absolutely essential); that notation be made in the registration book as to when received, the person to whom referred, the nature of the communication if important, and such other particulars as may seem appropriate.

The practice of binding the year's correspondence, reports, etc., of the board of health, giving each item a distinct number, and indexing the material, has much to commend it. However, instead of numbering the items at the end of the year it would be better to number them when originally received or filed and use the numbers to maintain control over the material.

The letters of the township solicitor containing legal opinions seem to be important enough to warrant receiving very special attention. These should be controlled in some really effective way; and perhaps they should be permanently bound and thoroughly indexed.

SUMMARY

Taken all in all, the finances of the township are managed on a high plane. Throughout the township government, we found, on the part of commissioners, officers, and employes, an earnest interest in the affairs of the township, a deep sense of responsibility for their share in its administration, and a splendid attitude with regard to improving conditions wherever the need for improvement seemed to be indicated.

On the whole, the township renders to the taxpayers pretty close to 100 cents of value for each dollar they furnish for its support.

The township is to be commended for its conservative borrowing policy, particularly for avoiding the use of long-term loans for highway work. The practice of making its highway bonds payable in from five and one-half to seven and one-half years, or well within the probable useful life of the improvements, is conservative. It would be still better, however, if all normal amounts of periodically recurring expenditures, such as for highway and sewer work, were financed in the first instance out of taxes, and if loans were resorted to only for unusually large expenditures for property or improvements.

Of the needed changes within the field of finance and accounting, the most outstanding is the need for a double-entry system of bookkeeping. The present bookkeeping and reporting methods are totally inadequate. A simple, effective, centralized, double-entry system of bookkeeping should be installed as soon as possible, and the entire internal procedure made to harmonize with it.

With the installation of such a system many of the shortcomings of the present budget procedure, reporting methods, and sinking-fund administration, to which references have been made in this chapter, will be met or obviated.

The township should give very careful consideration to the problems concerning tax-free bonds, and should guard itself from assuming more kinds, or greater amounts, of taxes than it intends to assume. The township ought also to consider taking steps to know which of its bonds are held by nontaxable holders, so as to save the payment of taxes to the state on bonds so held.

The township is to be commended for its liberal use of serial bonds, and for various features connected with its borrowing procedure; but it should go a step further and arrange the maturities of bonds and the taxes levied for their payment and interest so as to eliminate entirely the use of cumulative sinking funds.

A thorough analysis of the existing sinking funds should be made, appropriate sinking-fund accounts and schedules should be prepared and maintained, and, to the extent that the law permits, the sinking funds should be simplified and variously adjusted.

The system of sewer rents should be critically examined, adjustments therein should be made wherever found to be proper, and information as to all the financial aspects of the system from its inauguration should be made available to the citizens of the township.

Wherever practicable, all work for which special assessments are to be levied, or for which the township is to receive any payment otherwise, should be met out of revenues and not from the proceeds of loans.

Once a year, or more frequently, the accounts and business transactions of the township should be audited by professional accountants, and their reports should be made widely public.

The board of commissioners deserves credit for excellent progress in the direction of getting large returns on the township's idle money, but considerable opportunity still remains for increasing the income on the township's cash balances.

Other commendations and recommendations appear throughout this chapter. Those mentioned in this summary are but a few of the many.

CHAPTER III

HIGHWAYS

Duties and Functioning of Highway Committee

The highway committee is a committee of the whole, and is charged by the by-laws of the township commission with general supervision over the highways, sidewalks, and bridges of the township, to insure that they are in good condition for public travel, and that township ordinances pertaining thereto are complied with. The committee also supervises the collection of household wastes, except garbage.

This committee expends about twice the amount that is appropriated to any other committee. Reference has been already made to the manner in which the amount of yearly appropriation to this committee is determined, *i. e.,* by appropriating what is left from tax moneys after the needs of other committees have been met. Since each member of the commission is a member of this committee, and since the road improvement work is the form of activity most noticeable to the voters of the township, it is only natural that each member of the commission should be anxious to secure the maximum amount of appropriation to be assigned to work in his own district. The distribution of the district appropriations, therefore, constitutes the most important work of the year to many of the committee members. During the remainder of the year there are some matters of importance to occupy the attention of the committee at its monthly meetings, but on the whole the committee is quite willing to leave the execution of the job to the chairman of the committee. Under the conditions existing the latter devotes a considerable amount of time to the work and is consulted frequently by the working organization. The system in use some years ago, whereby each commissioner was permitted to spend the highway money allotted to his district as he saw fit, has been discontinued, and the chairman of the highway committee controls the spending of the money according to the program decided upon by the committee. The chairman also plays an important part in making up the year's program.

GENERAL ORGANIZATION OF HIGHWAY FORCES

The function of carrying out the program adopted by the highway committee is vested in the superintendent of highways. He is elected by a majority vote of the board of township commissioners to serve for a period of one year beginning February 1, and may be removed from office for cause by a two-thirds vote of the entire board. The present superintendent has held the position since the organization of the township in 1900, except for a period of two years, and previously handled road work for the old township supervisors. According to the by-laws of the township commission, the superintendent of highways receives his orders from the highway committee only through its chairman, or from the township commission only through its president.

There is an assistant superintendent of highways who is concerned more especially with field work. With a field corps he makes surveys and fixes lines and grades. He is also occupied with the drafting necessary in the highway work. During the construction season of 1921 the township gave temporary employment to a rodman and to three inspectors, the latter being necessary because of construction work performed by contract with money obtained from a bond issue. The all-year-round engineering and supervisory force, however, comprises only the superintendent and assistant superintendent, who now have the help of a clerk.

The township construction and maintenance gangs are in charge of foremen appointed by the highway committee and employed on a salary basis. At present there are six foremen. The laborers are employed on a per diem basis and are appointed by the foremen, although the superintendent reserves the right to remove any man whom he considers unsatisfactory.

HISTORY OF HIGHWAY DEVELOPMENT

In order to apprehend fully the existing conditions in the highway activities, it is necessary to review briefly the development of the township highway system. Such a review is extremely interesting, since it shows the very extensive changes that have been brought about in highway construction in the course of a very few years.

Prior to the first Monday in March, 1900, when the board of township commissioners was organized under the new law defining townships of the first class, the road work was directed by the township supervisors and nearly the entire tax levy was used for road work. The new township organization fell heir to a total of 120 miles of road of which only about 60 miles were stone-surfaced. There were no bituminous surfaces whatever. At that time the heavy automobile traffic of today was undreamed of and stone-surfaced roads of either the Telford or macadam types were adequate to the needs. But even with the relatively simple problem then existing and the relatively low cost of the road improvements, the annual reports indicate that the appropriations of about $40,000 a year were insufficient to maintain properly the stone surfaces then existing, to say nothing of extending the system of improved roads. While the resurfacing cost less than a dollar per lineal foot of road, the appropriations were sufficient to permit resurfacing of the entire 60 miles of improved road only once every 10 years.

In spite of the apparent inadequacy of funds, however, it was generally recognized that on the whole the roads in Lower Merion Township 20 years ago were in better condition than in any surrounding township. It is quite probable that there would have been a progressive improvement in the condition of the roads, had it not been for the advent of the automobile, which entirely upset the best of calculations. The stone surfaces rapidly deteriorated under the higher-speed rubber-tired vehicles. In the year 1907 the superintendent of highways reported that the cost of road maintenance had increased $10,000 a year because of automobile traffic, a sum equal to about 20 per cent of the previous year's appropriation.

The township tried several means of reducing the destruction of the roads by automobile traffic. Many of the roads were watered, but this practice was finally discontinued, and road oils were employed, but without success. As far back as 1906, the use of tar as a surface treatment was tried, but without great satisfaction at first, while in the succeeding few years several types of surface binders were employed in small quantity.

Program of Main Road Improvement Adopted in 1913

In the year 1912, about two miles of a prepared bituminous road surface were laid at several points in the township at the personal expense of one of the commissioners. The success of this experiment, and the pressing need of adopting a program for securing more durable surfaces on main highways throughout the township, led to the appointment of a sub-committee of the highway committee to study this problem. The conclusions of this sub-committee and the results of the first year's construction program are very clearly set forth in the annual report for 1913. The committee's report was a distinct contribution to a solution of the township highway problem. The sub-committee was entrusted with the carrying out of the program without the individual commissioners having any direct authority over the work performed in their districts, which was a distinct departure from previous practice, and somewhat different from the existing system.

The sub-committee determined upon some 25 miles of highway as constituting main highways. This mileage was exclusive of the two privately owned turnpikes (Lancaster Avenue and Montgomery Avenue) and the five miles of state highways. Some five miles of this total had already been permanently surfaced, and it was estimated that for a sum of $210,000 the remaining miles could be improved. In view of the average yearly expenditure of about $30,000 during the previous four years for resurfacing and for dust-laying experiments on the 25 miles of main highways, it was decided that the money needed for permanent improvements could be borrowed for a period of seven years—an estimate of the life of the improvements—and that the interest and sinking-fund charges could be met by a yearly appropriation not substantially larger than the amount previously spent annually on the same roads in temporizing with the problem.

The committee entered very carefully into the determination of the materials to be used. Advice was sought from specialists, and several trips of inspection were made. Adequate specifications were drawn and bids were asked on several combinations of the work with a guarantee of three or five years of satisfactory wear. As a result of these bids, contracts were awarded for about 80 per cent of the work, while the remainder was performed by township forces with surfacing material purchased ready to lay. The proceeds of the $210,000 bond issue were spent chiefly in 1913, while additional bond issues of $30,000 were made in both 1915 and 1916. Other permanent surfaces were also laid from tax receipts, so that in 1920, the year in which the last deductions were made from tax receipts to pay off the borrowed amounts, the more highly improved surfaces had increased to 27.52 miles as compared with 6.57 miles at the end of the year 1912.

Results of the 1913-1919 Program

The results of this seven-year program are very ably presented in the 1920 annual report of the highway committee. This report also gives a complete picture of the entire highway system, and is so clearly presented that the interested taxpayer should be able to get a good account of the highway work by reading it. The 1920 report indicates that from the proceeds of the three bond issues which totalled $270,000, $228,527 were expended on the construction of 207,439 square yards, or 18.25 miles, of road surface. Adding maintenance costs estimated at $800 a year, the yearly expenditure over a seven-year period was $39,020.92, which was only 30 per cent in excess of the cost of resurfacing and maintaining 20 miles of waterbound macadam on main roads prior to 1913.

The facts presented indicate the excellent judgment shown in planning the road program in 1912. At a relatively slight increase in cost over the previous maintenance work, well-paved main highways were provided which were capable of withstanding the unexpectedly enormous increase in automobile traffic. Due to the wisdom of borrowing money for terms well within the period of usefulness of the road surfaces, the township now has many miles of roads that are all paid for and which still have a few years of usefulness. In some ways these roads do not meet all the requirements of today; but as a whole they are a good investment, and the extra expense of construction due to the interest charges on the borrowed money was amply repaid in the extra service that was secured through the earlier completion of the greater part of the improvements.

Construction by Bond Money in 1921

The major recommendation contained in the 1920 report of the highway committee was for the issuance of a short-term bond issue sufficient to rebuild four or five miles of worn-out surfaces and to lay seven or eight miles of new bituminous surfaces on roads constructed of macadam, with a view to improving the local roads rather than the main thoroughfares. In fact this policy had been advocated and approved the year previous, but owing to difficulties in the way of borrowing the money within the 5 per cent maximum rate of interest, with the township guaranteeing to pay the state tax of four mills, the bonds could not be floated at par, while a later arrangement whereby the successful bidder for the construction work was prepared to bid par for the bonds fell through, partly because of a railroad embargo on shipment of materials that made the completion of the work uncertain.

Under the provisions of the act of assembly of March 17, 1921, the maximum interest rate was increased, and in the spring of 1921 the township was able to float a $300,000 bond issue, the proceeds of which were applied to a program of road improvement. Not all of this money was expended in the year 1921; but over five miles of new bituminous surfaces were laid chiefly on roads not classified as main highways in the special report of 1913, to which reference has been made.

STATUS OF ROAD IMPROVEMENTS AT CLOSE OF 1921

Information supplied by the department of highways indicates a total of 144.06 miles of public roads in the township divided among the control of the state, county, and the township, as follows:

	Bituminous Mixture and Concrete	Bituminous Surface Treated	Plain Macadam	Dirt	Total
Township Roads ..	33.90	29.70	27.51	31.17	122.28
State Highways ..	5.05	9.83	..	..	14.88
State-Aid Roads ..	1.83	..	0.17	..	2.00
County Roads	4.90	..	..	..	4.90
					144.06

Chart No. III-1 shows the layout of public roads and private roads.

State Highways

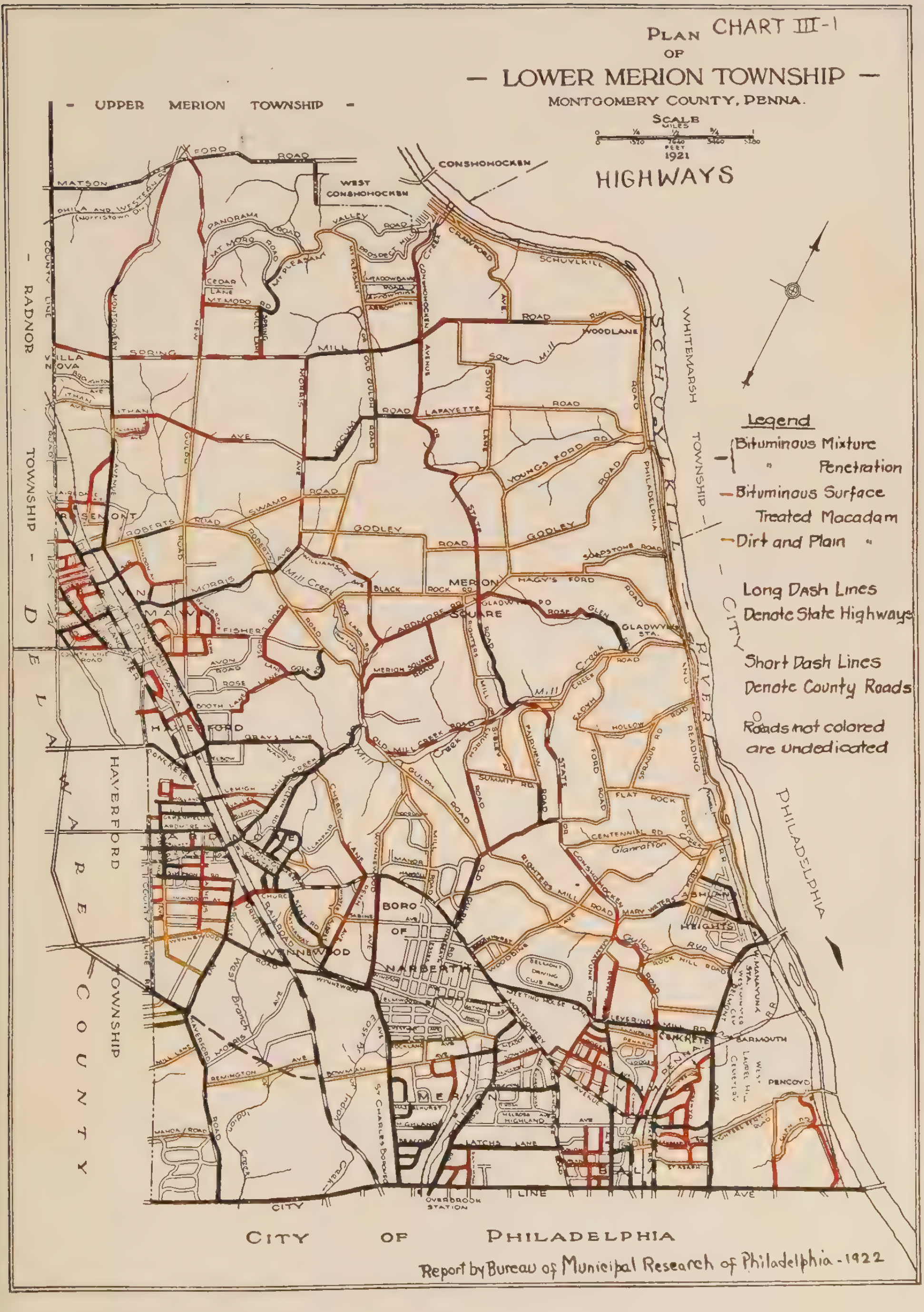
There are three state-highway routes in the township. Lancaster Avenue throughout its entire length in the township is route 142 and was acquired by the state in 1917 from the Lancaster Avenue Improvement Company. It is paved with asphalt for a width of 18 feet, which has been extended to the full width of 34-36 feet between curbs in portions of Ardmore and Bryn Mawr at the expense of the abutting property owners and the township.

Route 201, established in 1911, covers a serpentine course starting at City Line in Bala on the south and running to Matson Ford Road on the north, close to the junction of Montgomery Avenue with Matson Ford Road. It was laid out when both Montgomery Avenue and Lancaster Avenue, the straight-line routes through the township from southeast to northwest, were privately owned and operated as toll roads. Route 201, except for a short stretch of bituminous-mixture surface in Bala, consists of surface-treated macadam chiefly of narrow width. It is poorly suited to heavy traffic because of sharp bends and steep grades.

A short length of state route 225 lies in the township on Spring Mill Road from New Gulph Road to County Line. It consists of surface-treated macadam.

State-Aid Roads

Haverford Avenue from City Line on the south to County Line on the north, and Argyle Road from Haverford Road to Wynnewood Road, are state-aid roads. They were paved to


PLAN CHART III-1
OF
— LOWER MERION TOWNSHIP —
MONTGOMERY COUNTY, PENNA.
SCALE MILES 0 ¼ ½ ¾ 1
FEET 0 1320 2640 3960 5280
1921
HIGHWAYS
Legend
Bituminous Mixture
" Penetration
Bituminous Surface Treated Macadam
Dirt and Plain "
Long Dash Lines Denote State Highways
Short Dash Lines Denote County Roads
Roads not colored are undedicated
- UPPER MERION TOWNSHIP -
- RADNOR TOWNSHIP -
DELAWARE COUNTY
HAVERFORD TOWNSHIP
WHITEMARSH TOWNSHIP
SCHUYLKILL RIVER
PHILADELPHIA
CITY OF PHILADELPHIA
CONSHOHOCKEN
WEST CONSHOHOCKEN
MATSON FORD ROAD
PHILA AND WESTERN RY (Norristown Div)
COUNTY LINE
PANORAMA ROAD
MT MORO ROAD
CEDAR LANE
MT PLEASANT
VALLEY ROAD
PROSPECT HILL
CRAWFORD
SCHUYLKILL
SPRING MILL ROAD
WOODLANE
SOW MILL
LAFAYETTE ROAD
YOUNGS FORD RD
VILLA NOVA
ITHAN AVE
ROSEMONT
ROBERTS ROAD
SWAMP ROAD
GODLEY ROAD
WILLIAMSON
BLACK ROCK RD
MERION SQUARE
HAGY'S FORD
GLADWYNE STA.
SOAPSTONE ROAD
ARDMORE RD
MERION SQUARE ROAD
MILL CREEK
BRYN MAWR
FISHER'S ROAD
AVON ROAD
ROSE LANE
BOOTH LANE
HAVERFORD
GRAYS LANE
OLD MILL CREEK ROAD
GULPH ROAD
HOLLOW ROAD
FLAT ROCK
SUMMIT RD
CENTENNIAL RD
Glanraffon
RIGHTERS MILL ROAD
CONSHOHOCKEN
MARY WATERS
ASHLAND HEIGHTS
ROCK HILL ROAD
LEHIGH
ARDMORE
CHERRY LANE
MANOR
BORO OF NARBERTH
WYNNEWOOD ROAD
BELMONT DRIVING CLUB PARK
MONTGOMERY AVENUE
LEVERING MILL RD
CYNWYD
MANAYUNK STA
BARMOUTH
PENCOYD
WEST LAUREL HILL CEMETERY
REMINGTON
BOWMAN AVE
MERION
LATCHS LANE
BALA
CITY LINE AVE
OVERBROOK STATION
HAVERFORD ROAD
Indian Creek
West Branch
St CHARLES BORROMEO
Report by Bureau of Municipal Research of Philadelphia - 1922

a width of 16 feet with a bituminous-mixture road surface in 1915 and 1916, except for a short stretch of macadam on a steep grade. This road is maintained by the state-highway forces; but owing to the fact that it is not a state-highway route it receives but little attention.

County Roads

The Old Lancaster Road from City Line on the south to its juncture with Montgomery Avenue, State Road from City Line to Montgomery Avenue, and Montgomery Avenue from State Road to a point in Haverford, formerly toll roads, were purchased by Montgomery County in 1917, and have been freed of toll and improved with a bituminous-mixture road surface, and the paved width has been slightly widened. These roads are maintained by the county.

Township Roads

Information on types of surfaces and the yearly expenditures on the roads under township control is given in the following table:

TOWNSHIP ROADS

MILEAGE OF ROADS END OF YEAR

Year	Dirt	Plain Macadam	Surface Treated Macadam	Bituminous Mixture and Concrete	Total	Expenditures		Total Deductions From Taxes*
						From Tax Money	From Bond Money	
1912	32.41	69.20	..	6.57	108.18	$89,826	$ ..	$89,826
1913	31.35	59.46	2.03	16.11	108.95	71,547	146,550	74,247
1914	31.35	57.43	5.87	18.53	113.18	59,040	43,091	98,489
1915	30.70	53.45	7.32	23.18	114.65	45,308	51,959	83,459
1916	30.54	53.86	6.81	25.83	117.04	55,194	20,038	104,069
1917	30.35	54.35	6.63	26.45	117.78	74,382	4,605	129,282
1918	30.48	47.49	14.71	26.60	119.28	63,694	1,807	115,979
1919	30.59	48.70	13.05	27.10	119.44	95,665	559	145,935
1920	31.29	35.81	27.11	27.52	121.73	124,042	..	167,360
1921	31.17	27.51	29.70	33.90	122.28	83,991	277,010	89,741

Total 1914 through 1920 844,573
Yearly Average 1914-1920 120,653

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*Includes appropriations for highway work, interest, sinking fund, and state bond taxes.

These figures reveal many interesting facts regarding the road-improvement program. Whereas the total mileage of township roads increased only 13 per cent from the end of 1912 to the end of 1921, the portion of the total mileage having permanent (this term is, of course, relative only) surfacing capable of withstanding fairly heavy automobile traffic has increased from 6 per cent to 28 per cent. The actual mileage of dirt roads has remained almost constant, while the proportion of plain macadam surfaces has fallen from 64 per cent to 22 per cent of the total mileage, due chiefly to the practice of surface-treating the macadam roads with bituminous materials. This practice was apparently greatly extended in the year 1918, and again in the year 1920, until at the end of 1921 approximately one-quarter of the total township mileage was being maintained by this yearly treatment.

The expenditures for road work have, of course, gradually increased. The total disbursements in 1913 from appropriations of tax moneys and from the proceeds of a bond issue were $218,097, which far exceeded the disbursements in any one year previous. During the seven years 1914 to 1920, inclusive, when the bond issues of 1913, 1915, and 1916 were being amortized, $844,573 were deducted from tax moneys, an average yearly expenditure of $120,653, which represents $1000 a mile of road per year.

In the year 1921 the total expenditures from direct appropriation of tax money and from bond money were $361,001, which greatly exceeded any previous year's total disbursements. For 1922 the sum of approximately $146,000 has been set aside for road work. Adding to this amount the sum of $56,725 to cover interest, sinking fund, and state tax on the 1921 bond issue which is to be amortized in seven years, the total deductions from tax moneys for road work in 1922 will approximate $203,000, a sum which is 69 per cent greater than the average expenditure for the same purposes in the period 1914-1920 inclusive, and 22 per cent greater than the highest amount previously deducted from tax receipts in any one year—$167,360 in 1920.

Comments on Construction Work

Selection of Roads to Be Improved

The selection of roads to receive new construction is left partially to the wishes of the individual commissioners. This is advantageous from the standpoint of recognizing local opinion, but may operate to the decided disadvantage of the entire road program if carried too far. After the annual appropriation is made, each commissioner is consulted by the chairman of the highway committee, and a definite program showing the work proposed for each ward is formulated by the chairman and the superintendent of highways and submitted to the highway committee. Ordinarily this recommended program is adopted without substantial changes by the committee. Transfer of the fixed allotments from one job to another in the same ward is made by joint agreement of the chairman and the commissioner for that ward, or in case of disagreement, by the highway committee.

While the present method of apportioning the highway appropriation is far in advance of the system in use 10 years or so ago, when the money was distributed rather arbitrarily to the several wards and its expenditure was directed by the individual commissioners, it is advisable now to go a step further and wipe out all reference to ward lines when the committee makes the final apportionment. Although the annual program may be determined with fair consideration to the needs of the entire township, the fact that the records of the highway department are separated strictly by wards may encourage the placing of undue emphasis upon the roads within any particular ward. So far as the planning or administration of the highway work is concerned, it is certainly disadvantageous to divide the township area into as many as 13 highway districts, corresponding to the number of wards, and to use the illogical divisions of the township area that the ward lines afford.

The program of new construction, and major items of maintenance work, should be decided upon for a period of years in advance; say, five years. Such a plan would probably discourage any tendency to spread out too thinly the money that is available in any one year. The engineering work would also be considerably benefited under this arrangement because plans could be prepared reasonably in advance and not at the eleventh hour.

Selection of Types of Road Surfaces

In general the types of pavement which have been selected for use are acceptable for the conditions which are now encountered. We do not feel that it is the purpose of this report to deal with this highly technical subject in great detail. While the engineering practice in road construction work has recovered somewhat from the confusion which existed a decade or so ago, when automobile traffic upset all prior calculations, there is still much to be learned from highway research and it is still uncertain what ultimate loads our roads must be designed to bear. Any recommendations made today on this subject might easily be out of date in a short time.

It is advisable, of course, that the township should keep abreast of modern progress in road work. This can be accomplished largely through the familiarity of the superintendent of highways with new developments. The superintendent should be afforded at township expense the facilities necessary in the way of technical books and magazines, memberships in technical societies, including attendance at society meetings, with other trips from time to time to inspect road work. It is also advisable that the township should call in consultants on road-construction problems, as has been done to some extent in the past.

The selection of the type of road surface to be laid should be based primarily on the traffic to be carried. In this determination traffic censuses are of distinct advantage and should be frequently made. The township has made traffic counts in 1914 and 1921 which supply useful information. These counts should be repeated periodically.

There should be a very definite policy adopted whereby the several types of road surfaces used should be associated with the demands of the traffic. The program of construction initially adopted for 1921, as given in the 1921 specifications, did in a general way provide for the better type of work where the demands of traffic were greatest, bituminous mixture and bituminous macadam by the penetration method being selected for use. Because prices presented at a second bidding indicated that the bituminous mixture could be used at a small increase in cost over the other type, it was substituted in nearly all cases. While the type of road surface laid was the same on roads of varying traffic conditions, there was some difference in the bearing value of the roads because some had concrete foundations while others had a macadam or stone base. The problem of road foundations in the township is unique because of the many miles of deep trap-rock macadam roads that were installed years ago. These often excel the best concrete foundation that might be laid now.

The taxpayer who wants a new road surface laid in front of his property not unnaturally desires that it should be of the best type regardless of the traffic demands. Adherence to such desires would naturally reduce the extent of improvements possible with the funds available. This problem might be satisfactorily handled by insisting that the benefited taxpayers meet the difference in cost involved between laying the type of road desired by the taxpayer and the cheaper type that would bear the traffic.

In 1921 some 800 feet of bituminous-mixture surface were laid on Spring Mill Road east from Crawford Avenue. The nearest improved road surface of this type is a half-mile distant. A penetration-macadam surface was laid for 3,224 feet on Mt. Moro Road—which is practically a private driveway—to replace a waterbound macadam that was somewhat frayed but which might have been patched and surface-treated with a bituminous material and have met the needs of traffic. In 1921 an expenditure exceeding $22,000 was made on Sycamore Avenue, Merion, on a length of 2,174 feet. A bituminous-mixture surface was laid a full width of 30 feet between curbs with a concrete foundation on the six-foot strips adjacent to the curbs, because suitable stone foundation did not exist in these strips. The property owners paid for a stone curb that was laid, but did not contribute to the other expenditures, which exceeded $10 per lineal foot, which is at a rate greater than $50,000 a mile. Obviously the township out of its present tax receipts cannot make expenditures at this rate on the entire road mileage.

These cases are given to illustrate the absence of a definite policy as to what the township can afford to spend on road improvements from tax receipts so that all property owners receive equal consideration without endless waiting for improvements. A policy should be agreed to by all commissioners based on fairness to the interests of the whole community.

Specifications

Reference has already been made to the fact that before the extensive program of improvements was undertaken in 1913, comprehensive specifications were prepared with assistance from engineering consultants. This practice was also followed in preparing the 1921 program. While the latter specifications are generally acceptable, before being used again they should be carefully reviewed in the light of the experience of the 1921 construction work. In fact, the road specifications should be frequently submitted to such a review.

As presently constituted, the general clauses of the specifications are nearly standard. The materials and workmanship clauses are rather open, which would seem to invite risk and disputes.

It is advisable that further consideration should be given to the subject of guarantees. It is necessary to differentiate between a guarantee based on construction according to township specifications, and construction according to the bidder's specifications. A guarantee is equivalent to requiring the contractor to guarantee the township's specifications, unless it is employed to protect the township against inferior materials or workmanship, which might be controlled by adequate inspection. The guarantee clause on work that is based on township specifications often amounts practically to an arrangement for maintenance which is unprofitable and unnecessary because the township has its own maintenance forces.

Where the guarantee is made for work according to the bidder's specifications, it serves to protect the township against improper construction. Its amount may also indicate in a general way how strongly the bidder stands back of his paving mixture. If this guarantee is not accepted by the township, then the township is in a position of guaranteeing the contractor's mixture, which is not good practice. Accordingly, it would seem to be better to include a compulsory guarantee as part of the contract price when the contractor submits his own specifications.

Supervision of Construction

During the 1921 season, contract construction was supervised by two special township inspectors under the direction of the superintendent of highways, who visited each job very frequently. In the main the work of the inspectors showed conscientious endeavor, but from brief observation it seemed that they were lacking in some of the finer points of inspection work. This condition can be improved through educational talks to be given by the superintendent each day upon visiting the job.

During the course of the year's construction work many problems arise on which the counsel of an outside consultant would be very beneficial and actually save hundreds of dollars. The cost of a consulting highway engineer's services two or three days a month would be amply repaid. This procedure would also release the chairman of the highway committee to some extent from his rather detailed supervision of the work.

The need for such consulting services was very apparent in the late summer of 1921, when the present investigators inspected all work in progress. Many perplexing problems had arisen that were then being referred to the committee chairman who had just returned from Europe. During the chairman's absence, his work was transferred to an acting chairman, but for a week or so the latter was also inaccessible. Many of the problems to be met required the kind of judgment that is acquired from broad experience in highway work. Other problems were more of an administrative nature, such, for instance, as could have been worked out by a township manager if there had been one.

The records show that the highway committee in the spring of 1921 had under consideration the project of employing a consultant on road work, but no decision was reached.

Materials

Inspection by the township's officers of materials used in the 1921 construction was entirely visual. No laboratory tests were made of the bituminous materials, for instance, which were tested frequently in the course of the 1913 construction. It is, of course, true that the 1913 specifications were more of an experiment than those of 1921, and the type of bituminous surface which was so extensively laid in 1921 had been under observation in the township itself for nearly 10 years.

Some testing of materials in the laboratory, however, is advisable under all circumstances and should be provided.

Workmanship

The good workmanship which was displayed in nearly all parts of the 1921 construction program was considerably lessened in effectiveness by the careless manner in which the cement curb and gutter construction was performed. The alignment was exceedingly poor, due largely to the fact that wooden and not steel forms were used. The cement work was performed by sub-contract. Several sub-contractors were employed during the season, and finally it was necessary for the contractor to employ an experienced cement foreman to supervise the work of the sub-contractors. The results in general lacked the artisan's touch, although the work was substantially built.

Some of the work during construction was not a little careless. There seemed to be an unusually large number of broken gutters, for instance. While some of the damage done to the gutters was repaired by the contractor, payment was still being withheld by the township authorities on March 15, 1922, on some of the cement work.

Prices

The prices under which the 1921 work was performed seem to be in accord with those received in other sections at the time of their award. Conditions in the contract market have shown a marked improvement with much greater stability since the time that the 1921 contracts were awarded, and any work now advertised should reflect these betterments.

Bids from the first advertising in 1921 were opened on May 17. Computations indicated that on the entire program of work a paving company from the city of Philadelphia was the low bidder and the contract was awarded to this firm. The company desired to change the type of work partially specified and offered to do so at only a slight advance in price. The highway committee did not consider it proper to accept this offer but advertised for proposals for construction of the work in question on the changed specifications. The paving company to whom the contract had been awarded was the sole bidder in this second advertising, and was given a revised contract. This whole procedure was rather unusual and might have been avoided if prices had been requested in the first place on both types of construction on the roads involved.

The price of the successful bidder for the curb work was entirely too low for first-class work, and the cement work reflects this condition. It frequently happens that large paving companies figure on doing auxiliary work of this kind at cost in order to win the other items that produce profit. Unbalanced bidding of this kind should of course be discouraged.

Lines and Grades

Work of this sort was performed for the contractor as well as for the township gangs by a special field corps headed by the assistant superintendent. The work was kept in advance of construction needs. The most conspicuous fact about this work was that the lines and grades seemed to be prepared for each project without regard to a comprehensive system of lines and grades and frequently at the time of their use. It is unnecessary to point out that this practice usually results in forced expedients which only add complexities to an already difficult problem. A condition of this sort was noticeable at the intersection of Spring Avenue and Simpson Road in Ardmore. This subject is discussed more fully under the heading of Town Planning.

Construction and Maintenance by Township Forces

The foregoing discussion of road construction work refers more particularly to contract performance. Quite an appreciable amount of new construction has been performed each year by township gangs, even in 1921 when a large program was given out by contract. In that year 39,025 square yards of new surfaces were built by direct township work, as compared with 63,468 square yards by contract.

Results of Township Construction Work

The results obtained by direct township work have been very good, while the costs are very favorable, due largely to the fact that the superintendent of highways is well qualified through long years of experience to direct road-building gangs, and also because the township has been fortunate in securing able road foremen.

Materials used in township construction were purchased chiefly in the open market without advertising. The bituminous-mixture surfacing was purchased from one of the paving companies in Philadelphia, delivered on the job hot and ready to lay. The actual work of laying surfaces by township forces was equally as good as that of the special gangs used by the contractor.

Township v. Contract Performance

There seems to have been a general agreement among the township commissioners that as much construction work as possible should be done by township forces, but that large programs of construction using borrowed money should be given out by contract, because of the impossibility of expanding the township construction forces sufficiently. Each large increase in construction work, however, upsets the normal program and, because it requires emergency increases in personnel, whether of construction forces or of supervising inspectors and engineers, frequently results in loss of efficiency.

From the standpoint of low cost and efficiency of the township forces, in the office and in the field, it is desirable that the road-improvement work should proceed at a fairly uniform rate, or at a uniformly increasing rate, without sudden spurts. Under such a program the township forces can be gradually strengthened and increased to perform as much of the work as is desirable. In 1913, when an emergency required that a large program of construction should be accomplished quickly, it was necessary to do the greater part of the work by contract. The floating of a bond issue in 1921 made a second large program of construction possible, and contract performance seemed to offer the only means of accomplishing this program quickly. The program could have been divided over a period of several years and performed by township forces. In some respects, however, there are advantages to be gained by employing contracting forces which bring a varied experience to the work and a certain "snap" which may not always be present in the township gangs.

Organization of Road Gangs

The foremen in charge of road work are employed on a yearly basis, and were paid salaries ranging from $960 to $1500 in 1921, which seem too low for the quality of services rendered. When the construction season closes, the foremen may be released from active work but are subject to call on short notice. Some of them are assigned definite territory in the township, which they must inspect weekly during the inactive construction season, and also following violent storms, in order to detect washouts or obstructions in the roads that may impede travel. If such a condition exists, emergency repairs are made at once.

The division of the township area among the road foremen was originally established to provide for constant patrol of the roads when waterbound macadam surfaces were in use. At that time the road gangs were used almost entirely in the districts assigned to their foremen. At present those foremen who handle new construction work are switched at will over the township area, while road patching is assigned to one gang with a light truck that can quickly reach all points in the township. Accordingly the assignment of road foremen to districts signifies very little now except during the period when construction work is inactive and there are no other duties to perform. Even at those times the roads can probably be adequately inspected by the foreman in continuous charge of patching work.

The construction gangs averaged seven to ten laborers each, who were paid 45 cents an hour in 1921 for nine hours' work, a rate of $4.05 a day that was somewhat higher than the pay in certain neighboring places. The highway committee justified this rate as necessary to meet competition and on the grounds of employing workmen of higher grade than the average. Nearly all the workmen live in the township where they are available for emergency jobs during the inactive season. They divide among themselves such extra work as watching of road equipment on Sunday, at the regular rate of pay. The workmen are transported to and from the job to their homes by the truck assigned to the gang.

During the 1921 season three road foremen and their gangs were employed principally on construction work. A fourth was assigned to the ditching of dirt roads and a fifth was occupied in patching bituminous roads. The sixth was occupied with ditches and cleaning gutters in the built-up communities, but on October 1 started the weekly collection of ashes.

Equipment

The purchase of small equipment, shovels, picks, and like articles, has not been handled along generally accepted lines. At certain times small stocks are purchased, but there is also buying from local dealers in small quantities directly by the foremen. The bills are very carefully checked by the superintendent. It would seem desirable to keep a stock of small equipment, but if that would involve the employment of an additional assistant as storekeeper its cost would doubtless exceed any possible saving. By anticipating the season's needs, it is possible that some saving could be made by purchasing in larger quantities.

In the purchase of large equipment the township has always been fairly progressive. The greatest need now would seem to be for additional trucks. Only three were in use in 1921, two Ford one-ton trucks—one new and one four years old—and an Autocar two-ton truck with dump body that was bought originally for ash collection. It was necessary to supplement these facilities by the hire of private trucks. The rate paid was $15 a day of nine hours' work, including the chauffeur, who did his share of work in loading and unloading the truck. The total expenditure for this purpose in 1921 was $6,441.49, which was divided into approximately $2,850 for the construction account, $1,461 for maintenance account and $2,130 for ash collection.

Trucks were hired for an equivalent of 190 full days on construction work, which is almost equivalent to the continuous use of one truck throughout the entire construction season. Whether the adding of one truck to the equipment would have met the needs encountered in 1921 requires closer analysis. The records show, for instance, during certain payroll periods (two weeks' time) that trucks were hired from as many as eight different sources, but usually for a few hours' work each. However, on several occasions there were 20 days of truck hire in a period of 12 working days. During such times, at least two township trucks would have been necessary.

It is important to compare the cost of the hired-truck service with that of service supplied by trucks owned by the township. The records show that the new Autocar truck was used 270 days in 1921 at a total cost of $644.77 for gas, oil, accessories, and repairs, or $2.38 a day. Adding to this an allowance of $4.50 per day for chauffeur, the daily operating expense was equal to $6.88. Based on a truck cost of $2,700, and a probable useful life of three years, with no scrap value, the yearly amortization allowance would be $900. If we assume that 150 of the 190 days of private truck hire in the 1921 construction work could have been replaced by a single township truck, and that the truck would not have performed other work, it is necessary to add $6 a day [$900 divided by 150 days] for fixed charges to the operating expense, giving a total of $12.88. If these assumptions are reasonable, and they appear to be inclined to the side of safety, an additional township truck would have saved money for the township in 1921 if used on road construction work alone, while the estimated daily costs would undoubtedly have been lowered by the use of the truck on more than 150 days.

The township will, without question, find greater convenience and satisfaction, as well as reduced cost, in owning sufficient trucks to perform the greater part of its trucking service, and it is recommended that additional trucks be added as fast as conditions demand.

Scope of Maintenance Work

At the end of 1921 there were 31.17 miles of dirt roads in the township. While the traffic on these roads is light, as a rule, they require certain attention each year, principally in grading and ditching. There are still 27.50 miles of water-bound macadam surfaces to be maintained, although the mileage of such roads has been reduced 50 per cent in the last four years by the construction of prepared road surfaces or by applying surface treatment to the old macadam. Of the latter type of surface there are now nearly 30 miles which are given a surface treatment of bituminous material each year. This treatment is performed by contract at a stipulated price per square yard, which includes the work of sweeping the surface and of applying the bituminous material and the stone or slag chips. The necessary patching of the roads prior to surface treatment is performed by the township forces. In 1921 the entire cost of this surface treatment work was 11.33 cents per square yard.

This surface treatment, if applied where the macadam is not appreciably unravelled and where the traffic is light, gives a road surface that is satisfactory, at a cost per year less than that of a new bituminous surface. Experience of other municipalities indicates that eventually the bituminous material cannot get a hold because of the thickness of the accumulated treatments and it is necessary to spike up the road and start over. When such a time arrives it will be advisable to compare the yearly cost of laying a bituminous surface with that of continuing surface treatment.

The patching of the surface-treated roads, as well as of the bituminous surfaces of a higher type, has been done chiefly with a cold mixture of stone and bituminous cement. These materials have been mixed in a mechanical mixer located at the railroad siding most convenient to the job. The workmen and the materials were transported in a Ford truck. The results of this work seem to be very satisfactory.

In 1920 the patching of bituminous-mixture surfaces cost $4,607.41, averaging $168.34 per mile, or 1.8 cents per square yard. Three-quarters of this amount was spent at 13 locations where the surfaces were fairly well worn out; in four of them the drainage was defective. These 13 jobs cost 6.1 cents per square yard average, while in 7 of them the average cost was 10 cents. The road surfaces involved were renewed in 1921 in 5 of the 13 jobs discussed. As a whole, these surfaces requiring extensive repair were laid some 8 years previously.

In 1921 the maintenance of prepared bituminous surfaces cost only $2,740.38. Some work has already been done to renew the edges of the bituminous surfaces that have been broken down by traffic. Much more of this kind of work is now necessary in order to conserve the road surfaces and to eliminate conditions that are positively dangerous. Unfortunately, the demands for increased mileage of improved surfaces have made it necessary to spend the money available almost entirely on a narrow central strip without the necessary expenditure on the road shoulders to give lateral support to the central roadway surface. This doubtful policy has been partly eliminated by the present plan of paving from curb to curb. But in order to conserve the roads which are already built, there should be extensive improvements of the road shoulders as soon as possible.

It is also advisable to give consideration to applying a bituminous seal coat to rejuvenate certain of the bituminous surfaces laid in the last eight or nine years. By this means several years' additional usefulness can probably be added to the surfaces. This project is being considered as a part of the 1922 program.

Storage Facilities

Large pieces of equipment are stored in a building near the police station in South Ardmore. The township also rents yard space at a nominal price from the Pennsylvania Railroad at Ardmore and Bryn Mawr where road materials are kept. As additional trucks are added, other storage facilities may be necessary, which will add to the operating expense of the trucks.

FINANCING OF ROAD WORK

It is as important to discuss adequacy of appropriations as to examine policies in construction, or efficiency of engineering and construction forces. Under the present policy, money to pay for road-surfacing work comes from either of two sources: tax levies, or private voluntary subscription. There is no assessment of abutting property-owners for this object. Voluntary subscriptions, of course, amount to a very small item. Current receipts from taxes are supplemented for the time being by borrowed money, but this must of course be repaid from future tax receipts. The extent of the road improvements possible has up to this time been dependent, therefore, directly upon the amount of tax receipts applicable to this purpose.

Inadequacy of Appropriation

Regardless of the fact that the roads in the township as a whole compare very favorably with those in similar communities, they are not as good as might be desired, and inadequate appropriations tell the reason why. This situation is well understood by those who carry on the work. In accordance with the provisions of law, each year a rough estimate of the money required to support an adequate highway program has been prepared, but since this estimate has generally exceeded the possible amount available several fold, it could not be given serious consideration.

Owing to the increase in real estate assessments, there will be some expansion possible in future programs even though there is a legal limit to the tax rate.

An examination of the situation indicates the inadequacy of funds for road purposes. In the following table we have analyzed the minimum yearly expenditures necessary to maintain a proper program based on the needs of the next 10 years.

MAINTENANCE OF EXISTING TOWNSHIP ROADS

(A) Dirt roads, 31.17 miles @ $200 a mile	$6,234	
(B) Plain macadam, 27.51 miles @ $400 a mile	11,004	
(C) Surface-treated macadam, 29.70 miles @ $1000 a mile	29,700	
(D) Bituminous mixture, 33.90 miles @ $200 a mile,	6,780	
	$53,718	$53,718

NEW ROAD CONSTRUCTION

To replace 33.90 miles of roads (D) estimated life 10 years (2/3 roads of 18-foot width, 1/3 of greater width) 3.90 miles @ $24,000 a mile..	$93,600	
To replace the 30 miles of roads (C) in 10 years: 3.00 miles @ $20,000 a mile	60,000	
To improve the 27.51 miles of roads (B) in 10 years: 2.75 miles @ $10,000 a mile	27,500	
	$181,100	181,100

MISCELLANEOUS

Overhead (including office expense, supervision not allocated to the foregoing items, surveying, mapping, and control of street planning and property subdivision	$20,000	
Drainage problems	10,000	
Snow removal, street cleaning, clean-up work	10,000	
Bridges, culverts, walls, inlets, signs, guard rails, etc.	8,000	
	$48,000	48,000
		$282,818

These estimates have been prepared on the basis of existing prices, with some consideration of probable price trends. No provision is made in the 10-year program for new streets which are dedicated to the public use. The mileage to be so added is indefinite, while these streets will in the main be accepted only if the road surfaces have been somewhat improved. No provision is made for payment of damages for the opening of new roads or the widening of roads.

The estimated annual amount necessary, approximating $282,000, greatly exceeds the expenditures of the past. In 1922 there will be available for these purposes some $203,000 of direct appropriation from tax receipts, a balance of about $33,000 from the 1921 bond issue, and an uncertain sum from private contributions, all of which may total $250,000. From this amount must be deducted $56,725 for sinking fund, interest, and state tax on the 1921 bond issue, leaving a balance of approximately $200,000, which is about 30 per cent below the estimated amount necessary. For the six years 1923-1928, the appropriations available should be equal approximately to $335,000—being $282,000 for actual road work, plus an allowance for sinking fund, interest, and state tax on the 1921 bond issue.

Borrowing for Road Improvements

We have already commended the policy of short-term loans which would be paid off within the reasonable expectancy of life of the improvements. If it is necessary to borrow money because the improvements desired cannot be taken at once from tax receipts, this same policy should be followed and it is advisable to err on the side of safety in fixing the estimated life of the improvements, as has been the township's practice.

The most important question to consider, however, is whether money should be borrowed for road improvements at all except under unusual conditions. Borrowing increases the ultimate real cost of the improvements by a very substantial amount, even with the use of short-term bonds. The sum to be deducted from tax moneys in the seven years 1922-1928 to repay with interest and state tax the $300,000 issue of 1921, has been estimated as $377,030, an increased cost of roughly 25 per cent.

It is necessary to justify this 25 per cent increased cost in order to support the issuance of bonds, particularly on a high money market, such as we have had. Possibly the increased service to the taxpayer in the completion of the improvements in 1921, or at the latest in 1922, instead of progressively from 1921 to 1928, is worth the increased cost of 25 per cent. In fact, the 25 per cent increase in cost is not so important merely as an increased cost itself, but because (by limiting the amount of money available for use from tax receipts) it actually reduces by 20 per cent the number of miles of road that can be improved. Hastening the completion of improvements for some taxpayers, therefore, postpones similar improvements for others.

Borrowing for road improvements is justified under unusual conditions. Such conditions seem to have existed in 1913, when by reason of an entirely unexpected volume of automobile traffic, the formerly good macadam roads had been torn to shreds, making imperative their immediate replacement with more permanent surfaces.

In looking over the improvements completed in 1921 from the new bond issue, we find that the 1913 conditions of urgency for making improvements were not duplicated exactly. It is quite true that there had been a demand for better roads from the taxpayers for several years—largely resulting from the good improvements made in the 1913 program—which could not be met in a comprehensive way sooner because prior bond issues had to be paid off. This demand quite naturally was for local road improvements, since the prior extensive expenditures had been largely for main thoroughfares. Borrowing money made it possible to meet this taxpayers' demand immediately in a generous way and to perform one or more pieces of improvement in each ward, but without providing a way to satisfy the demand for improvements at the same rate in the following few years. Borrowing did not permanently overcome inadequacy of revenue; rather it increased this inadequacy. Taking all things into account, under conditions in the future similar to those existing in 1921, it would appear to be to the best interests of the township to forego the temporary stimulus afforded by using borrowed money unless the extra cost involved can be clearly justified.

It is well to repeat here the recommendations set forth in the chapter on Finance and Accounting, that recurrent outlays, such as for road improvements, should be met currently from tax receipts as a general principle. This is not only in the interest of economy of outlay, but also of building up a strong township-highway organization, as was pointed out in the previous discussion.

Assessment of Road Improvement Costs

There are 33 sections of the township code, covering some eight printed pages, devoted to the various means of proceeding with improvements so that part of the cost can be assessed against the owners of abutting property. The township, however, has never assessed the cost of road improvement against the owners of abutting properties. Since funds available for road purposes have never been adequate, the question quite naturally arises whether road improvement costs can be so assessed, and if so why it has not been done and whether it should be done in the future.

A number of decisions of the supreme court of the state have held as a constitutional principle that costs of road improvement cannot be assessed against abutting property-owners except for "first pavement" where the improvement is made with the intent of changing the road into a street. In recent years only a small part of the road-surfacing work in the township has been "first pavement" within this definition, and accordingly the statutory provisions authorizing assessment against abutting owners could have been applied only to a very limited extent.

Where it would have been legal to assess the abutting owners for "first pavement," the board of commissioners has felt that the small mileage was relatively unimportant, and that since the highway system as a whole has developed without assessment, it would be discriminatory to levy assessments. It is also thought that two-thirds of the total cost, the amount specified by law, imposed too great a burden on the abutting owner. To overcome this objection it was proposed to ask for a change of the law at the last session of the legislature which would authorize the assessment of any part of the cost not exceeding two-thirds; but in view of the fact that such a law would have such limited applicability the proposal was abandoned.

As a general principle, we should recommend that wherever possible, abutting owners be assessed for benefits derived from all types of public improvement. As a matter of expediency, however, it may be advisable to continue road surfacing on a strict tax-money basis. This policy will of course require higher tax levies than if a portion of the costs was assessed.

The policy followed in paying for "first pavement" on highways already dedicated, has a bearing on the extent of improvement which the board of township commissioners should require as a condition for accepting the dedication of highways. If "first pavement" is paid for entirely with tax money on highways already dedicated, where assessment against the abutting property would be legal, then in a strict sense it is discriminatory to require "first pavement" to be laid at the cost of the abutting owner as a prerequisite to acceptance of highways for dedication.

Without being radically inconsistent, however, the board might adopt a more stringent policy for undedicated highways than for dedicated highways. As a practical matter, a good macadam surface might be adopted as a prerequisite to acceptance of a highway for dedication. In such event the property-owners would be meeting the cost of "first pavement" since the courts have held that macadamizing fulfilled the requirements of "first pavement." The burden upon the property-owners would not be excessive. Property-owners need not be discouraged in laying pavements of a better type prior to dedication; this they frequently might do in order to obtain an improvement of a higher grade immediately. This road surfacing should be performed according to township specifications, and under township supervision.

The foregoing paragraphs apply specifically to the work of improving road surfaces. The provisions of the code referred to apply to curbing work as well as to paving or macadamizing. Since curbs have been used but little in previous road-improvement work, the highway committee has considered that curbing has a different significance from road surfacing proper, and, therefore, assessment should be made on the owners of abutting real estate when the curbing is laid by the township. Over 20,000 feet of curb were laid by the township in 1921—exclusive of curb laid by the property-owners and paid for by them directly—but the cost of this curbing was received as a contribution in a few instances rather than through a formal assessment.

Contributions

The records show that the following amounts have been voluntarily contributed during the last five years toward road improvements by owners of property benefited:

1917	$5,066	
1918	2,352	
1919	8,044	
1920	3,525	
1921	27,737	(includes $14,307 for curb)

These amounts are small compared with the total expended by the township in the same years. They represent chiefly extra value secured through more complete or better improvements than the township would otherwise have made. The community of Merion figured rather frequently in contribution work, possibly because the demand for more extensive improvement with curb and gutter was greater in that section of the township. Contributions were made in 1921 to work on Montgomery Avenue in Haverford, to Glenn's Lane in Ardmore, and to the widening of the paved width of Lancaster Avenue in Bryn Mawr. The last of these improvements was very necessary and of special benefit to the abutting property, which is used almost exclusively for commercial purposes. It was necessary for the township and the property-owners to pay the cost of this work jointly, although Lancaster Avenue is a state highway, because the state is interested only in the 18 feet of central roadway.

The practice of accepting voluntary subscriptions to road funds is long established in the township. Voluntary subscriptions have made possible certain improvements that could not otherwise have been made, at least without delay. The necessity for accepting contributions has been due partly to the fact that assessments were not made against the abutting property for a proportion of the cost. Sometimes, where assessments could not legally be made, there was an actual deficiency of tax money available. Most certainly the township should overcome the deficiency of township funds where they should properly be used, by collecting more taxes, rather than by "passing the hat."

Under the conditions now governing the financing of road improvements, there may sometimes be a legitimate reason for accepting voluntary contributions. Three things should precede any such acceptance: (1) the roads of the township should be classified with reference to the purposes they serve; (2) the type of improvement best adapted to each class of roads should be determined; and (3) for each class, a policy of financing the improvements from tax moneys alone, or from tax moneys and assessments, should be adopted. These factors being fixed, it is then appropriate that when a road is improved beyond the standard for its class, the abutting property owners should contribute the excess cost.

The willingness of owners of abutting property to subscribe voluntarily to the cost either of this extra improvement, or to a portion of the cost of the type of improvement fixed upon in the highway policy, should of course not operate to place such improvements on the program ahead of other projects which are more urgent.

Where contributions are accepted, arrangements should be made whereby not only is the money received through official channels, but also a complete accounting is made to the contributors for its use, within a short time after the work is completed.

TOWNSHIP PLANNING

The rapid change from rural to urban conditions in the built-up portions of the township has brought many new problems. This rapid growth, moreover, has occurred during a period when traffic conditions have been completely revolutionized. Unfortunately, comprehensive plans were not made years ago to guide the development of the township. Relatively speaking, however, the township is still but slightly developed, so that if prompt action is taken, the deficiencies of the past can largely be overcome, and future growth effectively controlled.

Street Treatment

As the development has become more intense, the less pretentious road treatment has given way in the built-up portions to the more extensive street treatment, with a demand for curb and gutter and a full-paved width of roadway. It has not been possible as yet to catch up with the changed conditions. Many streets which have been improved in the last 10 years, and which have a well-paved central surface, present a most unfinished and unattractive appearance for the remainder of the street width. On some such streets the edges of the pavement have been broken off, the road shoulders are in frayed condition, while gutters and curbs are irregular and of makeshift construction.

In 1921 the township adopted the policy of making all street improvements, so far as possible, complete from curb to curb. This is a very commendable policy. The 1921 construction program included concrete curb and gutter on all road improvements in built-up sections.

Grades

Road grades were relatively of little importance some years ago. So long as the center of the road was high enough to afford drainage, it did not make a great deal of difference how much higher it became. It was not thought necessary to do any excavation prior to macadamizing, or to remove old stone-work prior to resurfacing. In fact, the accumulation of stone layers resulted in the building up of extremely solid roadbeds. However, the road centers have been progressively elevated and the shoulders have become steeper and the side ditches deeper.

While these conditions were developing, there has usually been a demand for a sidewalk which has been laid at a grade then determined as best under the conditions existing, but usually without fixing all of the permanent grades for the street in question and those of the surrounding streets. Later it has been necessary to fit curb and gutter grades into this puzzle, and the results have frequently been far from satisfactory.

Several striking instances of this situation were demonstrated in the 1921 construction program. For instance, the grade of the center line of Lancaster Avenue was fixed by the state, when that road was purchased from the turnpike company, in accordance with the most economical manner in which an improved surface could be laid, and not to fit best into the sidewalk grades, or curb and gutter grades which had been partially established. Accordingly, when the road shoulders were paved in Bryn Mawr it was exceedingly difficult to establish gutter grades and very steep slopes were necessary in some places on the new paved portions in order to give a minimum of three inches of curb face.

It is true that the township is not directly responsible for the grades on Lancaster Avenue. Similar conditions are found, however, on township roads. It is not necessary to mention many of them, but the difficulty of fixing grades where the development had not proceeded in accordance with a predetermined plan was forcibly illustrated at the corner of Spring Avenue and Simpson Road.

Not only have the grades usually been established on each job as a single project without reference to a comprehensive plan, but often they have been worked out at the time of their use.

It is essential to establish a comprehensive plan of lines and grades of the entire township, but more especially in the thickly built-up sections. This is necessary if it is desired to present an orderly appearance in keeping with the good type of pavements which are being laid. Such a comprehensive plan of lines and grades will actually result in a saving in the improvements made. Under such a plan the engineering work would become easier each day as the plan is consummated, whereas now the engineering force is working under a serious handicap.

Authority to establish such a plan of lines and grades is afforded by section 525 of the township code, which provides that "the board of township commissioners may lay out, establish, and re-establish grades and may grade . . . all roads, streets, lanes, and alleys within the township lawfully laid out . . ." Control over grades in prospective streets might presumably be exercised under the provisions of sections 625 and 626 which are discussed below.

Control Over the Street Plan

Section 625 of the township code makes the following provision:

> Every township of the first class shall have a general plan of its streets and alleys, including those which have been or may be laid out but not opened. Such plan shall be filed in the office of the engineer or other proper office of the township, and all subdivisions of property thereafter made shall conform thereto. No streets or alleys, or parts thereof, laid out and confirmed, shall afterwards be altered without the consent of the commissioners of the township. No person shall be entitled to recover any damages for any improvements placed or constructed within the lines of any street or alley after the same has been located or ordained on the plan provided by this section.

The importance of this section is probably not fully estimated. It places responsibility in the board of commissioners to control the development of the street system. The fact that the plan includes streets which *may be laid out,* and further that all subdivisions of property shall conform to the plan, opens the way for intelligent planning by the township in advance of development, or as far as this is advisable. It is certainly advisable that this planning in advance should be applied at least to the main thoroughfares.

Section 626, which was added by the act of assembly of May 16, 1921, gives further control over land subdivision by providing:

> That in townships of the first class, all plans, plots, replots of lands laid out in building lots, and the streets, alleys, or other portions of the same, intended to be dedicated to public use or for the use of purchasers or owners of lots fronting thereon or adjacent therto and located within the limits of the township, shall be submitted to the board of township commissioners, and approved by it, before it shall be recorded; and it shall be unlawful for the recorder of deeds of the county wherein said land is situate to receive or record such plan unless the same shall bear thereon, by indorsement or otherwise, the approval of the board of township commissioners of the township wherein the land is situate.

Violation of sections 625 and 626 is declared a misdemeanor subject to a fine not exceeding $500.

The significant part of section 626 is the fact that the board of commissioners is given control over the platting of lands and the street-layouts even though it is not intended to dedicate the latter to public use. Apparently the only way that the township control can be sidetracked is through avoiding the recording of the plats. The maximum usefulness of the provisions of section 626 depends upon the township's being in a position to assist the land developer when he is planning his layout, rather than merely passing judgment on his plans after they are made. In other words, the township should assume the leadership. To be able to do so, the township will probably want to add to its highway staff, as it is expanded, at least one man who is familiar with the principles of property-subdivision and street-layouts. As a basis for such work better maps are necessary.

The township will doubtless find advantage in securing the services of competent town-planners from time to time. While their services would be valuable at this time, it is probably advisable to await the partial completion, at least, of accurate and comprehensive maps. Through the courtesy of the Main Line Citizens' Association, we have examined a report made in 1919 for the association by Frederick L. Olmsted and Arthur C. Comey, of Boston, which contains many valuable suggestions in the field of town planning. It has been helpful in the preparation of this report and we believe that the board of commissioners would be interested in its full contents.

Main Thoroughfares

It was obviously beyond the scope of the present survey to enter into a detailed study of the subject of main thoroughfares. The township must give consideration continuously to the question of whether main thoroughfares are adequate to the needs. On chart III-1 are shown the principal thoroughfares now in use and the extent to which they are improved. In general these thoroughfares are well located to serve existing needs, and future needs as well if certain roads are widened.

The greater trend of traffic is northwest and southeast through the township. Four main routes now exist: Lancaster Avenue (supplemented at its southern end by Wynnewood Avenue); Montgomery Avenue, with its three approaches in Bala (Old Lancaster Road, Bala Avenue, and State Road); Haverford Road; and finally Conshohocken Road, Old Mill Creek Road, etc., which comprise State Route 201. The three routes first named are more direct and of better gradient. Haverford Road unfortunately has a less attractive approach from the heart of Philadelphia. Lancaster Avenue affords the most advantageous entrance to the township from the city of Philadelphia, and this will be even more pronounced when the Lancaster Avenue improvement in Philadelphia is completed.

The capacity of the paved width of Lancaster Avenue is already being taxed, and the increased traffic is being felt at Ardmore. This thoroughfare has recently been widened to 80 feet by the state highway department to permit additional width of roadway when necessary. Although such a widening will increase the capacity, it is nevertheless advisable to divert traffic, if possible, to thoroughfares which do not pass through the built-up communities of Ardmore, Haverford, and Bryn Mawr. New east-and-west highways passing entirely around the Main Line district would, of course, simplify this problem.

So far as the township road-system itself is concerned, Haverford Avenue constitutes the best parallel highway to relieve Lancaster Avenue. Consideration should accordingly be given to the widening of this thoroughfare from its present width of 33 feet to a width of 60 or 80 feet, and the paved width should be increased. To be fully effective, this improvement would have to be participated in by the townships in Delaware County. But even after widening the right of way and the roadway itself, this thoroughfare does not logically draw the through traffic from Philadelphia because of conditions in the city of Philadelphia. Accordingly, it might be desirable to provide a means of drawing the traffic from Lancaster Avenue after it enters the township from Philadelphia, but before it reaches Ardmore, by a new road pursuing a generally diagonal course from Bowman Avenue and Lancaster Avenue to the junction of Haverford and Argyle Roads. This road, though costly to develop, would most probably accomplish the results desired. It would also be of advantage to improve Wynnewood Avenue west of Argyle Road to furnish another outlet from Lancaster Avenue, while the improvement of Bowman Avenue would provide a cross-circuit in the southern end of the township, although Bowman Avenue unfortunately does not have a well-defined connection with the Cynwyd-Bala section.

Detailed study should be given to the entire thoroughfare-system in the immediate future, particularly with a view to widening roads in advance of more intensive development. Several projects of this kind have already been considered, and in 1920 a portion of Montgomery Avenue from Roberts Road to Ithan Avenue was widened from 40 to 60 feet.

Local Street Systems

A considerable number of local streets are found which fit poorly into the general plan and indicate over-development of the land without regard to the best interests of the township. Some of these streets have not been dedicated to the public. Under the provisions of section 626 of the township code, already quoted, all property layouts can probably be controlled in the future, and it will be difficult to avoid the supervision by the township over the platting of streets by allowing them to remain private streets.

General principles should be adopted to control property subdivision. These should include minimum widths of streets, and minimum width and depth of lots. Through streets should be insisted upon to provide easy communication from one development to another. These through streets should be of fairly straight alignment, with easy grades. The secondary streets can be laid out with other considerations in view, but should provide easy circulation to afford efficient policing and fire-fighting. Dead-end streets should of course be avoided.

Opening, Widening, Vacating of Roads, etc.

Sections 495-512 of the township code provide the methods by which the board of township commissioners "may enact, ordain, survey, lay out, widen, straighten, vacate and relay all roads, streets, lanes, and alleys and parts thereof within the township, upon a petition of a majority in interest of the owners of property, . . . if in the judgment of the board of commissioners it is necessary for the public convenience."

Proceedings may also be brought in the court of quarter sessions to accomplish these objects; and in the past, if the board of township commissioners did not approve a particular project, the proceedings were brought in court where it might be successful in spite of the board's disapproval. This loophole, however, was effectively closed by an act of assembly approved May 16, 1921, wherein the board's approval is necessary before the court can grant the petition.

Surveys

The township does not have a general plan of its road and street system such as is required by section 625 of the township code. The nearest approaches to this are the road map, which is not drawn strictly to scale, and the sectional maps made 20 years ago when the sewerage system was planned. There is no exact property map of the township. Quite unfortunately, surveying has not been conducted on the firm basis existing in the city of Philadelphia through its board of surveyors. The superintendent of highways has at various times made minor surveys which supply certain information, and he personally knows many details about the probable road lines which are not matters of record. Private surveyors also possess some knowledge of property lines. But on the whole the entire system is based on uncertainties which constantly hamper the carrying out of the highway program.

The superintendent has already made a start in clearing up this situation by making surveys of about two-thirds of the total mileage of township roads. Recently an arrangement has been made with a local private surveyor to complete surveys on the remaining 48 miles and to complete a map on the scale of 400 feet to the inch showing the entire layout of roads. All field notes will be furnished to the township. This work is scheduled to be completed next November. The roads will be monumented in a temporary fashion. Later permanent monuments should be constructed to the extent necessary to preserve the surveys.

Consideration should be given immediately to the making of topographical maps. The present investigators have recently examined a system of topographical maps made by a firm of topographical engineers for several cities in the middle west that is saving those cities many thousands of dollars in the planning and execution of public improvements. Such maps on a contour interval best suited to the township conditions would prove invaluable, and would quickly repay their cost, even though this may appear rather high on first consideration. The control work necessary to the making of such topographical maps will be partly supplied by the surveying now being done.

The topographical mapping of the township should be undertaken immediately, although it is not necessary to complete it in a short period. Hastening its completion would involve heavy expense in the next year or two. However, we would recommend that at least $10,000 should be appropriated for surveying and mapping purposes annually until it is completed.

When topographical maps are available, it will be a relatively easy matter to establish a comprehensive system of lines and grades, and to plan extensions to the sewerage system. It will also be possible to exert a fuller control over the platting of undeveloped land and the street layout. The township will then be in a position to assist the land developer in platting his tract so as to locate the streets more economically and in accordance with the layout of the ground, and to preserve as parks or open spaces such portions as are unsuited to street development.

Storm Drainage

Storm drainage has become more important as streets have been paved from curb to curb and roof areas have increased. Since deep gutters have had to be dispensed with, it has become necessary to lead the water off the roads at more frequent intervals than formerly. This situation has been complicated by the fact that frequently natural water courses have been closed by private land development in violation of section 699 of the township code, which reads:

> The township commissioners or supervisors of townships of the first or second class may enter upon any lands or enclosures, and cut, open, maintain, and repair such drains or ditches through the same as, in their judgment, are necessary to carry the water from the roads, streets, lanes, or alleys. If any person shall stop, fill up, or injure any such drain or ditch, or shall divert or change the course thereof, without the authority of the commissioners or supervisors, such person shall for every such offense forfeit and pay a sum not less than four dollars nor more than twenty dollars.

Several projects of storm drainage have been included in the highway programs of past years, and many others are now under consideration. The problem, however, demands a comprehensive study which will be greatly facilitated by the completion of topographical maps. By exercising control over land subdivision it will be possible to make adequate allowance in future development for storm drainage. If possible, storm sewers should be provided in the street development so that cellar drains can be installed, since the latter cannot be connected with the sanitary sewerage system.

Other Details of Highway Treatment

Street names are sometimes passed upon by the highway committee when the streets are accepted for dedication. In general, however, street names have been added without full consideration to existing names. Such duplicate names exist as a Bryn Mawr Avenue in both Bryn Mawr and Bala-Cynwyd, a Merion Road in Merion and a Merion Avenue in Bryn Mawr. These conditions are confusing, particularly in reporting and reaching fires, and should be eliminated.

The system of street numbers is described in chapter IV.

The system of street signs should be improved and extended. Quite an appreciable sum was spent by the highway committee in 1920 in conjunction with the Main Line Citizens' Association, which also contributed to the cost, in erecting 75 road signs set up on iron posts at prominent road junctions in the upper part of the township, and attaching 99 signs to buildings. The advantage of attractive road signs is very well demonstrated at Merion, where a complete system of signs has been erected at private expense through the efforts of the Merion Civic Association.

Reference to guide posts and index boards is made in sections 735 to 739 of the township code. Section 735 makes it compulsory, for the township commissioners, subject to a fine for non-performance, to erect posts at the intersection of all public roads and fix boards thereon with index hands pointing to the direction of such roads and the distance in miles to the towns to which the roads lead. This provision of law is certainly not followed to any appreciable extent, but it was apparently meant to apply to a less extensive road system than exists in Lower Merion Township.

While street lighting is regulated by the police committee, the problem is one of great interest from the standpoint of highway treatment. An effort should be made to secure attractive standards to replace the wooden poles and iron brackets now used. This has been already done in Merion at private expense.

Attention should also be paid to the problem of eliminating poles of all sorts from the highways and of the laying of conduits to carry wires.

SIDEWALK CONSTRUCTION

Grades for sidewalks should, of course, be fixed as a part of the general system of lines and grades, and if this is done, many of the irregular conditions of the type now in existence will be avoided.

The construction of sidewalks is covered rather fully in the township code. Section 950 provides that sidewalks may be constructed at township expense on township highways. Under the provisions of section 960, the township is required to establish the width and location of a sidewalk on the request of any land owner whose land fronts upon a public highway. The width of the walk is fixed at not less than six feet for roads 50 feet in width or less, and 10 feet for wider roads.

Upon the petition of a majority of the owners of property fronting on either side of a public highway in any village, the board of township commissioners may, by ordinance, under the provisions of section 970, require all property owners to grade and pave the sidewalk in the manner provided by ordinance; on failure of the property-owners to do so, the township commissioners may have the work done and charge the cost to the property-owners. The width of sidewalks established by section 970 is not covered in the law, though it might be supposed that the minimum width of six feet given in the preceding section of the township code—section 960—was meant to apply to the following sections.

The board of township commissioners is also given authority in sections 981 and 982 to require the construction of sidewalks along highways within any town or village without petition from the property-owners, and on failure of the owner of land to comply may cause the work to be done and collect the cost from the property. Other sections of the township code govern the ordaining of sidewalks on turnpike roads, state highways, or county roads. Sections 1005-1013 cover still another angle of the situation, namely, sidewalk construction on principal streets or highways in which the township shares the cost. Such sidewalks are required to be not less than five feet in width.

Practically all sidewalks ordained by ordinance are specified to be four feet in width; a few have been six feet. A four-foot sidewalk is generally unsatisfactory and is acceptable only on side streets. It would be better practice to specify six feet, or at least five feet.

Many sidewalks that have in the past been constructed according to improper specifications now present a most unattractive appearance. Where sidewalks are ordained by ordinance, a four-inch thickness of concrete is specified, laid on a firm base, whereas many of the old sidewalks have only a thin cement crust laid over a layer of cinders. Where sidewalks have been established by township ordinance, the property owner is charged by law to keep the sidewalk in good repair. However, the sidewalks not established by ordinance are those that are in particularly bad condition.

REFUSE COLLECTION—SNOW REMOVAL—STREET CLEANING

Collection of ashes and rubbish was first begun in February, 1921, from certain sections of Ardmore, at a special charge to those receiving the service. The collection is made weekly from October to April, and monthly during the other months. It is specified by ordinance that the material to be collected is to be placed inside the fence line, or at the option of the householder, may be carried out from the cellar by the collectors. Usually the householder is glad to have the material collected from the cellar.

To afford a dumping place for the collected material the township acquired a ravine in Ashland Heights, on Mary Waters Ford Road, and built a new road leading to it. Owing to the availability of a dump closer at hand—an old reservoir on Haverford Road—the materials collected by the township are hauled to it instead of to the township dump. A special two-ton truck, with a power dump-body, was purchased for the collection work, and private trucks have also been hired when needed.

The charges to the householders are graded according to the cubic contents of the house from which the collection is made, and range from $4 to $24 a year. The chief obstacle to the work is the fact that only 300 householders out of some 1100 within the district covered have volunteered to pay for the collection. It is unfortunate that tax receipts do not permit this necessary service to be financed without extra charge to the householder, and the system will probably not be of maximum usefulness until it can be so financed. Of course, the more extensive the present volunteer system can be made, the cheaper the cost of performance will become. This should permit lower rates to those served, and thereby promote the extension of the system indirectly.

The township undertook a comprehensive handling of the snow-removal problem in the winter of 1921-1922, when it put into use a special snow plow attached to the two-ton truck owned by the township. A road scraper drawn by horses was also used. This system should be extended by adding other motor-propelled snow plows until there is sufficient equipment to handle the snow while it is falling on all principal roads, so that traffic may not be interfered with.

There has been but slight attention paid to street cleaning in the past. Automobile traffic throws the dirt from the central roadway to the sides of the road and occasional cleaning of gutters has served to remove the bulk of dirt. Paving from curb to curb, of course, creates a new condition and more frequent cleaning is being demanded. This problem deserves special study, to make it possible to recommend methods of cleaning and types of equipment most desirable.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

As a whole the highway system of the township compares very favorably with that of any similar community. Many of the road surfaces are excellent, although the appearance of some highways which have well-paved central surfaces is marred by the frayed condition of the edge of the paved portion and the less satisfactory improvement of the road shoulders, gutters, and curbs. This condition will be eliminated in future work by paving from curb to curb, or by building the road shoulders more substantially to give lateral support to the central roadway. These new policies are more costly but very necessary. Existing unsatisfactory road shoulders and edges of the paved portions should be improved immediately to conserve the improvements already made.

Road construction by contract has been in general satisfactorily performed. Construction and maintenance by township forces deserves very favorable comment. The road gangs have been constituted and operated very efficiently under good foremen ably supervised by the superintendent, who has had long experience in road-construction work. The cost of new construction by township forces is very favorable and the work is as well performed as by contract. The overhead costs of this work have been very reasonable.

To supplement the existing personnel it is advisable to consult frequently with specialists in road work. The services of such specialists acquired from wide and varied experience would be particularly valuable from time to time during the construction season in straightening out issues which are bound to arise.

The results of the highway work must be weighed on the basis of what can be accomplished with the funds available and not on the basis of what might be accomplished with unlimited appropriations. The shortcomings of the existing highway system are due principally to lack of funds. In fact, highway appropriations are decidedly inadequate at present to support the program desired. Increasing the funds available in any given year from tax receipts by borrowing money on bond issues, actually reduces the funds available in the long run through interest charges and deductions to pay the state tax on bonds. Recurrent expenditures, such as for highways, should preferably be met by annual allotment from tax receipts.

To insure the best accomplishment from the inadequate funds available, the program of construction should be outlined for the township as a whole without regard to ward or district lines and should be planned for a period of several years in advance. A definite policy should be adopted whereby the types of improvement should be determined in accordance with the demands of the traffic.

Errors in carrying on highway activities have been chiefly errors of omission rather than of commission. The development of the highway system unfortunately has not been according to predetermined plans. A comprehensive system of lines and grades should be established and closer control should be exercised under the authority of law over street planning and property subdivision. In these activities the township should take the leadership. To stimulate public interest in comprehensive planning of the township, it might be very beneficial to create a town-planning commission, or committee, with citizen representation, to act in an advisory capacity on matters of street planning, property subdivision, and other matters discussed in this chapter of the report, as well as with parks, playgrounds, and public buildings, which are discussed in other chapters. To carry out effectively such programs as are outlined, there should be a set of topographical maps to supplement the survey of road lines that is to be completed in 1922.

The conduct of the highway activities has thrown a heavy load upon the highway committee, and particularly on its chairman, who has devoted serious study to the problems encountered at a great personal sacrifice of time. The more frequent retention of the consulting services of a road specialist would relieve the chairman of certain technical detail, while administrative details should be shifted to the shoulders of a township manager. This proposal is discussed in the last chapter of the present report.

It is also advisable to expand the scope of the highway committee and to constitute it as a committee on public works to deal with all matters of engineering, including highways, drainage, refuse collection and disposal, and town planning. All drafting work should be combined in one office and field forces co-ordinated. This proposal is also discussed in the last chapter of the report.

CHAPTER IV

HEALTH AND DRAINAGE

According to the by-laws of the board of township commissioners, the health and drainage committee, comprising six members, has charge and general supervision over the township's sewer system, the collection and disposal of garbage, house numbering, and matters pertaining to the general health in the township. Direct supervision over the public health, however, is delegated by provisions of state law to the board of health, the activities of which are described in the next chapter of this report. The work of the health and drainage committee and the board of health, however, has been closely connected, since the formation of the board of health in 1908, through certain employes who have divided their time between the work of these two branches of the township government.

PERSONNEL

The by-laws of the township commissioners provide for a superintendent of health and drainage to perform whatever duties the health and drainage committee may require of him; to have charge and supervision over the township sewer system and the pumping stations, and the collection and disposal of garbage; to supervise the construction of sewers built by the township and to inspect private sewers intended to be dedicated to the township; and to supervise all employes under the control of the health and drainage committee. The superintendent is required to certify all pay-rolls and bills of the health and drainage department. The by-laws provide that he shall receive orders from the committee through its chairman or from the board of township commissioners through its president.

For some years prior to 1919, the position of superintendent of health and drainage was held by a civil engineer who also served as health officer for the board of health, thus completely combining the administrative activities of the board of health and the committee of health and drainage. When he left the township employ the duties performed by him were not turned over intact to another employe, but certain adjustments were made in the duties of his principal subordinates. One of these was made health officer for the board of health, serving independently of the health and drainage department. Another was made superintendent of health and drainage, and while he has been in nominal charge of the entire department of health and drainage and has approved all bills, he has devoted his own time chiefly to sewer construction, house-lateral construction, house numbering, garbage collection, and plumbing inspection for the board of health, while supervision over the sewage-pumping stations has been exercised by a third employe.

Under this supervisor of pumping stations are six employes rated as engineers and inspectors, who are assigned to the operation of the pumping plants, but who devote a certain part of their time to the inspection of sewer-lateral construction and sewer-maintenance work.

In the office is one clerk who handles the records of the sewer-rentals accounts, and who receives applications for sewer-construction permits and complaints regarding garbage collection, prepares reports, and does other clerical work.

Two automobiles are furnished by the township for use by the department. One, a Ford runabout, is used by the superintendent of health and drainage and is kept in a garage at Bryn Mawr at the expense of the township. The other, a Ford touring car, is used by the supervisor of pumping stations and is kept at his home at no expense to the township.

SEWERAGE SYSTEM

Soon after the present form of government was established in the township in the year 1900, the health and drainage committee began work on drainage plans because of a demand for a comprehensive system of sewerage. The committee consulted a sanitary engineer in New York City, and two members of the committee and a civil engineer visited England to study sewerage systems. As a result of these investigations. it was decided to construct a system of drainage for house sewerage only, in order to economize on its con-

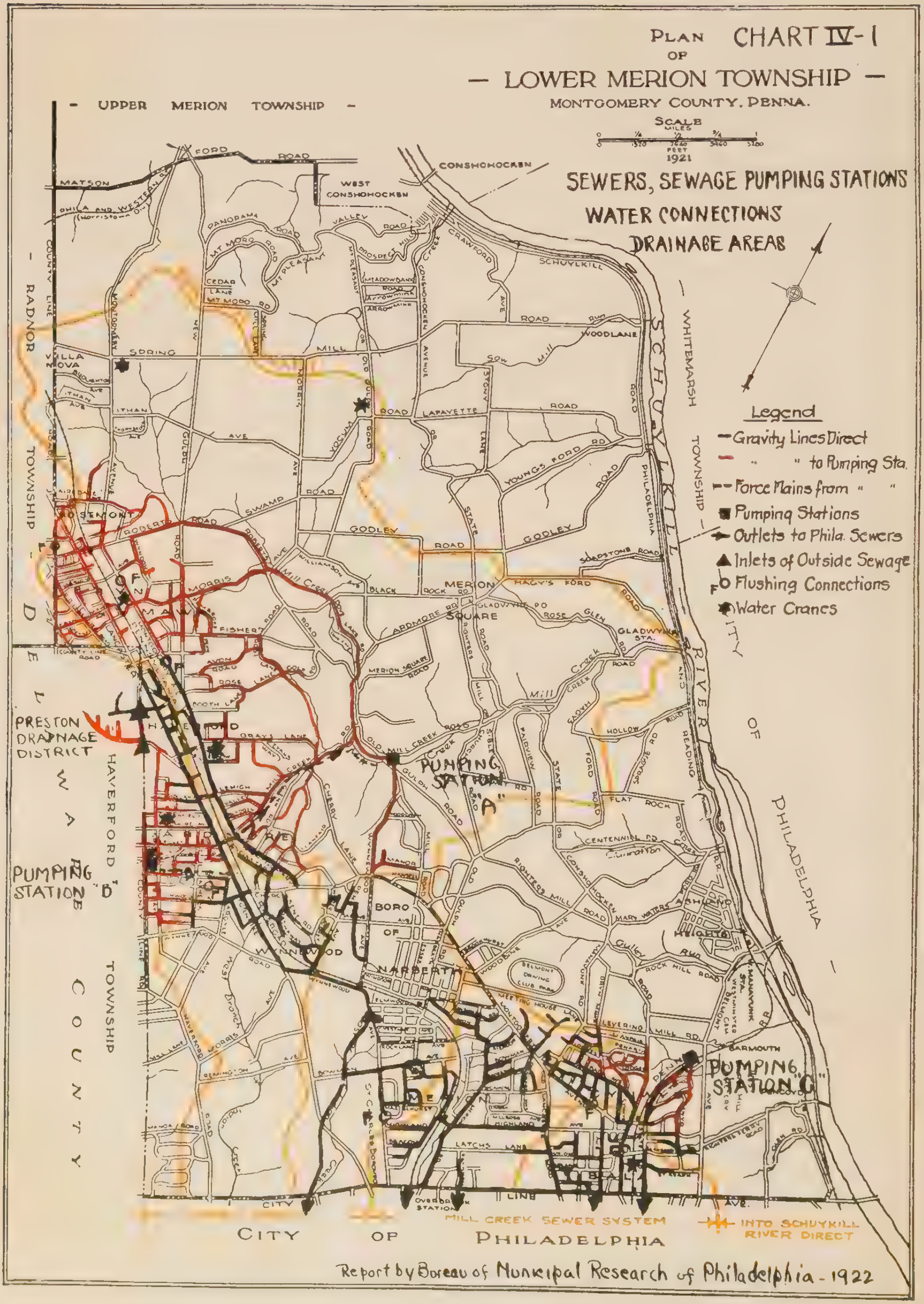

CHART IV-1

PLAN OF — LOWER MERION TOWNSHIP —

MONTGOMERY COUNTY, PENNA.

SEWERS, SEWAGE PUMPING STATIONS
WATER CONNECTIONS
DRAINAGE AREAS

1921

Report by Bureau of Municipal Research of Philadelphia - 1922

struction and because surface drainage was not so important under the conditions then existing.

In June, 1902, an engineering firm from Philadelphia was employed to make surveys and draw plans and specifications for the construction work. These plans and specifications were approved by a board of engineers. On May 6, 1903, a contract was awarded for the construction of about 36 miles of sewers. This initial program of construction was completed in November, 1904, at a cost of about $400,000, which was considerably in excess of the estimate of $300,000, due to extensive rock excavation and trouble from quicksand which had not been anticipated. In addition to a $250,000 issue of 30-year bonds authorized by the electorate at a special election held on the third Tuesday of February, 1903, it was necessary for the board of township commissioners to negotiate a $200,000 bond issue under the powers vested by law in the board. The annual reports during the years of initial sewer construction indicate that there was some confusion and misunderstanding in the township over the cost of the work, in consequence of which the contractor's account was not settled until several years later, after litigation in the courts.

Since the year 1904, about 28 miles of sewers have been added to the township system by construction paid for from township funds and by the dedication to the township of sewers which were privately constructed. The system now comprises 64 miles of sewers, of which 15 miles are on the gravity system, while 49 miles are tributary to the three sewage-pumping stations. The entire sewerage system, including the three pumping stations and the force mains which deliver the sewage to the gravity system, represents a total investment by the township of more than $600,000.

On chart IV-1 is shown the general layout of the sewerage facilities, with a differentiation between those sewers which discharge by gravity into the connections with the city of Philadelphia and those in the three pumping districts (Mill Creek, South Ardmore, and Cynwyd), from which the sewage is pumped into the gravity sewers. It will be noted that the area of the township close to Philadelphia is almost entirely sewered by gravity into the city system, whereas the upper portion of the township is beyond the divide and its sewage is pumped into collecting sewers that follow the general line of the Pennsylvania Railroad. The chart shows the approximate limits of the several drainage districts as determined from the United States Geological Survey map. In some places it has been possible to extend the gravity sewers beyond the lines shown.

In the year 1905, a small section of Preston, which is in Haverford Township across the Delaware County line, was sewered and connected with the Lower Merion sewerage system under an agreement whereby the township receives a certain proportion of the sewer rentals collected in the Preston Drainage Company district. The drainage company also pays the township $100 a year for flushing the sewers in this district.

On March 6, 1907, an agreement was entered into with the Borough of Narberth, which is surrounded by Lower Merion Township, to provide an outlet for the borough sewers into the township sewerage system. For this privilege the borough pays $400 annually to the township, and the township reserves the right to connect sewers from the township area immediately surrounding the borough to the borough sewers.

All the sewage is discharged into the sewerage system of the city of Philadelphia at the five points shown, under an agreement contained in an ordinance of the city councils approved June 30, 1902. For this privilege the township now pays $100 a year to the city, which is very low for the benefits received, but the agreement contains a provision that if the city shall ever change its method of disposal by treatment of the sewage or otherwise, the township will either pay its proportion of the cost of such treatment or other disposal as determined by the number of cubic feet of sewage discharged into the city sewers, or will disconnect its sewers. Eventually the city will treat all its sewage before discharge into the rivers, and the township will be under much heavier charges.

In the very near future the city of Philadelphia will probably make certain improvements in the drainage facilities of the district in the far southwestern portion of the city (40th ward) which will involve the intercepting and pumping of the flow of the Cobb's Creek interceptor. Accordingly, in a year or so the township may be under additional expense, which will be a factor in determining the amount of sewer rental to be charged. The amount of this additional charge to the township cannot be estimated until the pumping costs, as well as the quantity of sewage discharged into the city sewer at 66th Street, are known. No records of actual quantity of sewage flow are available, but the sewage from at least three-quarters of all sewer connections in the township is carried to this point. Including the connections in the Borough of Narberth, there are probably 4,000 houses sewered through the 66th Street outlet.

The sewerage plans prepared in 1903 provided for 36 miles of sewers which form the backbone of the system as it now exists. With the exception of the pumping district in Cynwyd, which was completed in 1914, the 28 miles of sewers built later have been added as extensions to the original layout. The main sewers have usually been of sufficient capacity to carry the additional load, but they are not capable of being added to indefinitely. At the time the original system was planned, obviously, no one could tell how much territory would eventually be drained into the main or trunk sewers, or how intensive would be the real estate development.

This is particularly true of the layout of the sewers which empty into the city of Philadelphia system at City Line Avenue and 66th Street (at the crossing of the East Branch of Indian Creek). This sewer carries the direct or gravity drainage of a very narrow section along the line of the Pennsylvania Railroad from lower Bryn Mawr to Wynnewood station, and of the Borough of Narberth and adjacent territory in Merion, while the sewage from the Mill Creek and the South Ardmore districts is pumped into it. This trunk sewer will be relieved of the load of sewage from the South Ardmore district if arrangements are completed for discharging such sewage into the new Haverford Township sewerage system, while necessary expansion of sewerage facilities to provide drainage for territory north of Cynwyd may in the future afford a gravity outlet for the sewage from the Mill Creek collecting system.

Extension of Sewerage Facilities

The township as a whole has kept well abreast of the need for additional sewerage facilities. The most thickly populated sections are all sewered with the exception of Ashland Heights and West Manayunk, Merion Square, and a recently developed section just north of the Borough of Narberth. In the two communities first named there are serious difficulties in the disposal of sewage. The area near Narberth can be sewered satisfactorily and the sewage pumped into the gravity system in Cynwyd. This is the most feasible arrangement to afford drainage quickly and cheaply for this section, although eventually it may be possible to discontinue the pumping. A start has already been made in the preparation of plans for the sewerage of the section near Narberth. A sewage-pumping station will probably be located in the vicinity of Manayunk Road and Gulley Run. It is proposed to undertake the construction work, if possible, in the year 1922, since the conditions surrounding the use of cesspools in this area are most unsatisfactory.

Surveys have been made for extending the facilities of the Mill Creek collecting system to an area north of Rosemont. This extension does not present any new problem of sewage disposal, since the territory to be drained is naturally tributary to the Mill Creek collecting system, although consideration must be given to the capacity of the main collecting sewers and the sewage-pumping station to handle the increased flow of sewage.

These two extensions to the sewerage facilities, while comparatively easy to make, are typical of many problems that are sure to arise in the course of a few years, all of which taken together will constitute a larger problem than the initial problem of sewer construction in 1903. In fact, conditions have made it necessary heretofore to postpone the natural solution of the sewage-disposal problem for a large portion of the township area. However, with such problems arising as the sewering of the area north of the Borough of Narberth, it is advisable that the problem should be approached according to a more or less fixed plan of future development, in order that no steps may be taken now that later will have to be retraced.

Obviously it is not within the scope of this report to discuss this problem in detail, but it may be of value to describe the general features. On chart IV-1 is shown, in addition to the existing sewage-collecting system, the approximate limits of the several natural drainage areas included within the township. The heavy line that very closely follows the route of the Pennsylvania Railroad from Rosemont to Ardmore, then follows Church Street and Montgomery Avenue past the Borough of Narberth and cuts through Cynwyd and Bala to meet City Line Avenue near Belmont Avenue, separates the township area into two distinct parts from the standpoint of drainage. The northern part, comprising about three-quarters of the area of the township, drains to the Schuylkill River above the intakes of the waterworks plants of the city of Philadelphia, while the southern part is tributary to the Schuylkill below the water intakes or is tributary to Cobb's Creek that discharges into the Delaware River below the confluence of the Schuylkill River with the Delaware. This southern part, therefore, presents no serious problem of sewage disposal, except as the township must pay the city of Philadelphia or Haverford Township its share of the cost of sewage treatment.

Sewering of the northern three-fourths of the township does present a problem, which is not so very difficult from an engineering standpoint, but which will involve large expenditures. So far the problem has been sidetracked by pumping the sewage from the Mill Creek collecting system and from the low Cynwyd system over the ridge into the sewerage system of the southern part. It is possible to continue this practice and even to extend it, as is proposed for the territory just north of Narberth; but eventually this method will become impracticable and costly, and steps must be taken to collect the sewage from the northern part of the township by an intercepting sewer along the Schuylkill River, and to provide for its disposal. When such facilities are available it will be possible to provide sewerage for Ashland Heights and other sections. At present the city of Philadelphia has no facilities for taking this sewage into its collecting system unless a river crossing is made. Treatment of the sewage with direct discharge into the Schuylkill River presents serious problems with city water intakes only a short distance below. While in 1903 and 1909 there was some discussion of treating the sewage from the Mill Creek collecting system and discharging it directly into the river, such a method is open to grave objections.

This problem should be studied *now* before such construction as is proposed north of Narberth is undertaken. The sewers in this section should be designed to fit eventually into the comprehensive plan. The necessity of embarking on a larger program of construction will probably be felt sooner than the average person is willing to admit. The territory north of Cynwyd presents most unusual opportunities for attractive suburban development which will be rapid as soon as rail transportation is provided.

SEWER CONSTRUCTION

During recent years a greater length of sewers has been added to the township sewerage system through the dedication of sewers built privately under township inspection than by construction with township funds. The last major construction by township funds was the drainage of the low section of Cynwyd in 1914. Minor sewer extensions will doubtless continue to be privately financed. Major construction, however, such as in the district north of Narberth, will undoubtedly be made by the township because of the difficulties in financing private construction of an extensive layout.

Private sewer construction is well regulated by the township. A printed application blank is furnished to the individual, or individuals, on which the location of the proposed sewer is to be indicated. Certain requirements are set forth on this application blank. These provide that a plan and profile to a certain scale and made by a competent civil engineer must be submitted to and approved by the superintendent of health and drainage, that construction work must be done in accordance with the township standard specifications and subject to the direction and supervision of the superintendent or an inspector, and that manhole frames and covers shall be of standard type furnished by the township at the applicant's expense. The last provision is a very wise one. As might be expected, the plans and profiles received are not always complete and frequently have to be returnd for further information. It would appear to be advisable to state definitely what information is required on the plan and profile and what general principles of design must be followed. The township work conforms fairly well to good practice, although there is some slight tendency to disregard certain principles of sewer design, such as in the location of manholes. It is advisable, therefore, to put the requirements in definite form and to adhere to them as strictly as is possible.

Sewers constructed privately are dedicated to the township under a formal deed of dedication accompanied by a certificate from the contractor that the sewer has been paid for in full. The deed conveys to the township an easement through any private property that the sewer may cross. The deed provides that all buildings then erected or thereafter to be erected on the property abutting on the line of the sewer may be connected with the sewer on paying the proper cost of such connection, *but without liability to any assessment for cost of construction,* subject, however, to such annual charges for operation and maintenance as may be imposed by ordinance. While the exemption of the abutting property from *any assessment for cost of construction* is undoubtedly meant to refer only to the sewer in front of the property, it might be advisable to reword this portion of the deed so that there would be no question raised in the future, if benefits are assessed against the property for necessary construction on the sewerage system to which the particular sewer is tributary. We have in mind the construction of a sewage treatment plant or an intercepting sewer, the cost of which according to sections 1081, 1082, and 1083 of the township code would have to be assessed against the properties abutting on the sewerage system to the extent that they are benefited.

Sewer Plans

The sewer plans prepared for the township by a private engineering firm in 1903 laid the basis for nearly all the construction work performed to date. However, it has been necessary to prepare plans for many additions, and for an additional drainage district—the low level district in Cynwyd—which was not contemplated in the initial layout. This supplementary sewer-design work has been done by the health and drainage department, except for private sewer construction, and many of the plans for private construction have been based on information furnished by the township. It is a question whether the latter plans should not be actually prepared by the township for the builder, possibly on a fee basis, in order to insure definitely that they will fit in with the plan of future development.

Mention has been made of the desirability of preparing general plans at this time for the sewering of the northern part of the township that drains naturally to the Schuylkill River within the township limits, in order that all construction in the future may fit into a general scheme of development. The approximate layout of such a system can be determined now from such maps as are available, especially the United States Geological Survey topographic map. However, the layout should be studied carefully by a sanitary engineer to insure that the facilities will be adequate for the future population that the township will support. The layout of main collecting sewers can probably be ascertained without any extensive field work. The designing of lateral sewers is not necessary now, and must, moreover, wait upon street development. By the time lateral sewers are to be constructed, perhaps the township will possess more complete maps from which the necessary information can be obtained. (See chapter III on Highways, under the head Town Planning.)

Sewer Records

It is recommended that steps be taken immediatetly to put the sewer records in better shape, and to bring them up to date. Plans for the original 36 miles of sewers were furnished to the township in a bound volume by the engineering firm connected with this work, but no profiles are in this volume. With later work it has been the practice to prepare rough sketches soon after each sewer was completed. Later pencil drawings were made and traced. These pencil drawings have not been made for any of the 1920 or 1921 construction, and for not all of the 1919 work, while the tracing work is many years behind. The records should be completed as soon as it is possible to provide special drafting assistance, and while the rough notes are intelligible.

There is no map in the files which shows the entire sewerage system. For convenience in approving applications for new sewer construction, and in answering inquiries from citizens, such a map is needed. A plan of the township sewers to which new construction could be added as completed could be used also to keep the state department of health informed periodically of the sewer construction in the township. Complete information on the sewerage facilities in the township was last forwarded to Harrisburg in 1917.

State Permits for Sewer Construction

The township holds several permits relating to sewerage facilities from the state department of health, such as are required under the provisions of the act of assembly approved April 22, 1905. While the provisions of this law were not retroactive, and went into effect subsequently to the completion of the initial sewerage facilities and of the connecting of the township sewers with the city of Philadelphia sewerage system, the provisions of the law did apply to the township as soon as extensions were made. On July 3, 1906, a permit was issued covering sewer extensions in the Mill Creek district. This permit reserved to the state the right of approval of subsequent extensions as well as approval of any change in the method of sewage disposal.

On November 9, 1909, a permit was issued to the township to make further extensions to its sewerage system in accordance with the comprehensive plans prepared in 1903. This permit was issued following a controversy between the state and the township over the use of grit tanks at the Mill Creek pumping station. On March 3, 1912, a third permit was issued for the sewering of the Cynwyd pumping district. New permits should be sought for all extensions. It is important to note that the township, and not the private individual who builds a sewer under township permit for dedication to the township, is responsible for obtaining a permit from the state in accordance with the act of assembly approved April 22, 1905.

Sewer Maintenance

Under this heading are included such activities as repairs to sewers, cleaning, and flushing of sewers. The work involved in making very minor repairs or in removing minor stoppages in sewers is usually performed by the permanent township personnel, sometimes with emergency labor help. Larger work, such as would be involved in restoring a section of sewer that has been washed out, is generally performed for the township by a contractor on a labor and material basis. We have examined a number of bills for this work, some of which were not itemized. We believe that such bills should be itemized to protect both the contractor and the township. It is advisable to perform as much of this maintenance work as is possible by the township forces.

Once a year, in the late spring or early summer, the entire sewerage system is flushed by discharging water into each manhole, starting at the ends of the laterals. To cover the whole system requires the continuance of such work during six or seven weeks' time. In the late summer it has been the practice to re-examine certain parts of the system and to flush flat lines. No regular records have been kept of this work from which the particularly troublesome lines could be ascertained, but these lines are known to the inspector who directs the flushing work and it is these sewers that are flushed twice each season.

Most of the flushing work performed is unnecessary and should be discontinued. In general, flushing is necessary on the ends of laterals and where grades are so flat that deposits are formed. Automatic flush tanks discharging at frequent intervals have been used in some cities at the head of many lateral sewers, but this practice is not recommended for the township because of the high service charges by the water company. If flushing is really needed on flat lines the present frequency of flushing is obviously ineffective and should be increased. Flushing need not extend below the head manhole unless inspection shows a need for adding water below that point. It is suggested that all manholes should be inspected periodically in order to detect the need of repairs or of flushing the sewer lines, and that a written record be kept of such inspection.

Water for sewer flushing in 1921 was drawn from nine two-inch flushing connections located in manholes as shown on chart IV-1. For each such connection the township pays the Springfield Water Company a yearly rental of $85, and in addition pays for all water used at the rate of 40 cents per thousand gallons. In the year 1921, 246,900 gallons of water were paid for in sewer flushing work at a direct cost of $98.76, while service charges of $765 for the nine connections increased the total cost to $863.76, making an indirect charge for water at the rate of $3.50 per thousand gallons. Water is certainly too expensive to be used for sewer flushing except to the extent absolutely necessary, and for that reason the flushing work as now practiced should be radically revised.

It is advisable to reduce the number of water connections, since this will greatly reduce the water company's bill. Three connections were eliminated a short time ago and one in October, 1921, but others should be dispensed with. On June 15, when we made an inspection of the sewer flushing work, the flushing wagon was being filled at a water connection on Montgomery Avenue in Cynwyd, which is located at a high point in the water distribution system. The flow was so small that it did not fill the 600-gallon tank wagon in much less than a half hour. Certainly this connection is poorly located and is greatly increasing the cost of flushing. In order to get a stronger flow of water, the water connections should be located at points of lower elevation, but this proposition has been disapproved in the past because it would involve hauling all the water uphill. Accordingly a relocation of water connections and a reduction in the number of connections is dependent somewhat upon furnishing more powerful and swifter transportation.

In arriving at a decision in this matter, consideration should be given to the fact that the highway department has an independent series of water cranes from which water is obtained for road work. There is no good reason why two separate series of water connections should be maintained. With better means of transportation provided, the present needs of water for flushing sewers can probably be served by four connections, one each in the Bala-Cynwyd district, in Merion, in Ardmore, and in Bryn Mawr. These, together with the highway department connections on North Montgomery Avenue and on Old Gulph Road near Spring Mill Road, would probably serve the entire needs of both departments, a total of six connections in place of fourteen, at an annual saving of $680 on rental charges.

The horse-drawn tank wagon, team, and driver were hired by the township in the summer of 1921 at a cost of $9 a day, while a laborer who opened the manholes was paid $4.05 a day. In addition to this special personnel, one of the sewage plant operators was detailed as inspector. The work occupied about 38 working days and cost the township $559, which with the inspector's salary would make a total of over $700. This expense can be greatly reduced by eliminating useless work as suggested above, by dispensing with the laborer, who is not necessary, and finally by providing a motor-drawn tank wagon to decrease the time of haulage. A motor-drawn tank wagon was recommended by the health and drainage committee in its 1920 annual report. If a motor chassis is purchased, it could probably be employed on highway work during the major portion of the year.

Sewer Connections

Up to December 31, 1921, 4,419 permits had been granted by the township for connections to the sewer system. Some of these permits were not utilized, so that this number is slightly in excess of the total connections now made to the sewerage system. The following table indicates the new permits issued by years since 1904, when the first sewerage facilities were made available, and the total in force at the end of each year. About a quarter of the entire number were issued in the year 1905, and thereafter there was a fairly constant number of permits yearly until the year 1918, when there was a marked falling off. Since that time the number of permits issued has been below the average of the years 1904 to 1917, due to the slump in home building.

SEWER-CONNECTION PERMITS

	New Permits	Total
1904	221	221
1905	1,030	1,251
1906	260	1,511
1907	206	1,717
1908	210	1,927
1909	202	2,129
1910	272	2,401
1911	286	2,687
1912	236	2,923
1913	255	3,178
1914	175	3,353
1915	246	3,599
1916	179	3,778
1917	164	3,942
1918	47	3,989
1919	103	4,092
1920	158	4,250
1921	151	4,419

According to the 1920 annual report, the connections are divided among the several sewage districts as follows:

1. Haverford and Ardmore gravity lines	1,107
2. Merion, Bala, and Cynwyd gravity lines	873
3. Mill Creek pumping lines (discharge into 1)	1,277
4. Ardmore pumping lines (discharge into 1)	888
5. Cynwyd pumping lines (discharge into 2)	123
	4,268

Under the provisions of section 1070 of the township code, the township commissioners are empowered to require adjoining and adjacent property-owners to connect with and use the sewers where necessary for the public health. This matter is covered in an ordinance passed August 1, 1906. It has not been necessary to employ this power to any extent, since property-owners have generally connected voluntarily and promptly.

Connections with the township sewers are made under the rules and regulations adopted by the board of township commissioners. A penalty is prescribed for non-compliance with these requirements under the terms of an ordinance approved by the board December 2, 1903. The applicant for a permit must fill out an application blank and pay in advance a fixed charge according to the type of street surface that must be broken into. The charges now in effect are as follows:

For laterals laid in dirt roads	$30
" " " " roads paved with waterbound macadam	40
For laterals laid in roads paved with surface-treated macadam or other materials	50

The latter charges cover the cost of work performed by the township in carrying a lateral connection from the sewer to the fence line (property line or street line) and of restoring the pavement. From the fence line the connection to the drainage system of the building is made by the property-owner under township inspection.

The practice of having the actual connections with the township sewers made by the township instead of by a number of different plumbers or contractors is a very wise one, and serves to protect the condition of the sewerage system. It is advisable that the charges for such work should be maintained as near cost as possible. This is not a simple matter, because it is necessary to fix the price in advance and to make a uniform charge regardless of the exact length of the connection. The current charges were adopted in August, 1920, when a sharp advance in the contract price of doing the work made increases necessary in the charges to the property-owners. However, there was a reduction of about 30 per cent in the contract prices for the year beginning August 1, 1921, and a reduction should probably be made now in the township charges for sewer connections. It is a question whether the charges should not be regulated with each new contract or at least with each major change in contract prices without consideration of losses or gains in the past.

An examination of the sewer-laterals account gave the following information for the entire period since 1904:

SEWER-LATERALS ACCOUNT

Year	Surplus	Deficit
1904–05	$1,299,91	$ ..
1905–06	..	548.79
1906–07	610.20	..
1907–08	..	173.49
1908–09	47.36	..
1909–10	411.77	..
1910–11	142.25	..
1911–12	56.26	..
1912–13	170.82	..
1913	..	225.54
1914	..	1,955.75
1915	232.25	..
1916	223.02	..
1917	..	218.92
1918	..	28.05
1919	..	248.25
1920	..	633.12
1921	352.56	..
	$3,546.40	$4,031.91
		3,546.40
Net deficit		$ 485.51

The records indicate a net deficit of $485.51 in the sewer-laterals account from 1904 through 1921, with a surplus of $352.56 in 1921, but with successive deficits in the four years previous. These figures do not tell the entire story, however. An examination of bills of the health and drainage department paid by the township in the year 1920 shows that some of them were improperly classified and charged against the sewer-laterals account. On the other hand the account has not been charged with the cost of patching bituminous pavements when such work was performed by the highway department.

It is advisable to keep this account sufficiently correct to permit more complete determination of charges than has been possible in the past, and for that reason, as well as for others, we have recommended certain changes in the classifications used under the present accounts (see chapter II on Finance and Accounting).

The township advertises each year for bids for the construction of lateral connections or house sewers. The performance of the work is under the direct supervision of the superintendent of health and drainage, and in accordance with standard specifications for sewer construction which are made a part of the contract. The contractor is required to bring the ditch to the proper grade with stone, but not to replace bituminous surfaces. The repaving over ditches in roads having other than macadam surfaces is eventually done by the township highway department, except where a state or county road surface is cut into, when the patching is done as extra work by the sewer-laterals contractor. It is necessary for the township to obtain a permit to open a state or county road, and to file a bond to insure that the road surface will be replaced in good condition. Since this patching work is usually done immediately after the ditch is filled in, without allowing time for settlement, it is ordinarily necessary to use a concrete base for the pavement patch. Even then there is sometimes settling of the entire ditch, or breaking of the concrete foundation because the traffic is frequently turned onto the patch before sufficient time is allowed for the setting of the concrete. It is suggested that this defect might be remedied by using for the pavement foundation pre-cast reinforced concrete slabs, which would have greater strength, and possibly also be cheaper for use.

SEWAGE PUMPING

At present three pumping stations are operated as part of the sewerage system. The largest of these is station A at Mill Creek; the next largest, station B on the South Ardmore collecting district; and the third, station C at Cynwyd. The first two were part of the initial layout of sewerage facilities, while the third was put into operation in 1914. Their locations are shown on chart IV-1.

Mill Creek Station

As originally constructed, station A at Mill Creek was equipped with two triplex-plunger pumps. In 1913 a new unit was added which comprised a 125-h. p. Otto gas engine and a 10-inch two-stage Kingsford centrifugal pump. At about the same time a gas-producer plant was installed to supply gas to replace gasoline as a fuel. During the year 1921 the old triplex pumps and engines were removed and an 8-inch two-stage Kingsford centrifugal pump and 100-h. p. Lincoln electric motor were installed. The electrical unit now performs the larger part of the pumping work, but the gas-engine unit is operated a certain period each day in order to keep it in working condition to serve when the sewage flow is too heavy for the electric unit, or when the supply of electric current is interrupted.

The Mill Creek station is provided with concrete basins in which the sewage accumulates between the intermittent operation of the pumping units. One basin was part of the original installation, and about 1909 plans were prepared for enlarging the storage capacity in order more effectually to remove from the sewage gritty materials that were injurious to the valves in the triplex pumps. There was objection raised at that time to the storage of sewage at the plant, and the state department of health issued an order stopping the work on the new tanks. The state department favored continuous pumping, with little or no storage of sewage, and advised the township, before proceeding with plans designed to increase the pumping capacity, to study the possibilities of treating the sewage at a plant lower down on Mill Creek prior to discharging into the creek, thereby eliminating the sewage pumping. However, the storage capacity below the overflow pipe into the creek has since been increased to a total of about 222,000 gallons, which capacity is capable of holding about five hours' maximum flow of sewage on an average day, or from two to three hours' of maximum flow following rainfall.

The old pumping equipment, to which gritty materials were so injurious, has now been eliminated and some better plan of operating the tanks might be desirable. There is objection to the settling of the sewage to remove gritty materials because this process results in the retention of organic solids in the tanks. A certain amount of storage, however, is advisable if the existing pumping equipment is to be operated economically. If the pumping were to be continuous, or more frequent than at present, pumping equipment of smaller capacity would be necessary to supplement the existing equipment.

The motor-driven pumping unit at Mill Creek station has a rated capacity of 50,000 gallons per hour, pumping against a static head of 175 feet. The supervisor of pumping stations states that it has been tested and found capable of a slightly higher capacity. The gas-engine-driven pumping unit is capable of 60,000 gallons per hour when operated independently. Operated together, they deliver not over 80,000 to 90,000 gallons per hour. These figures indicate that the 12-inch discharge main, 6,671 feet long, is inadequate to the development of full pumping capacity, which is a serious deficiency; a discharge capacity exceeding the limit imposed by the existing main is now needed at times of excessive rainfall. Unless plans are developed in a short time to cause the elimination of this pumping station, it will probably be necessary to install a second force main. This problem should be considered as part of the study of drainage requirements for the entire northern part of the township, recommended in an earlier section of this chapter.

The increased sewage flow during and following heavy rainfall constitutes the most important problem at the Mill Creek station, and should be given most thorough consideration. We are informed that whereas the normal maximum flow into the storage basins is 16 inches per hour, heavy rain during the day increases the flow frequently to 26 inches, and, if the rain continues over night, to 36 inches per hour. Sometimes about two weeks elapse before the flow returns to normal. Perhaps some of this increased flow may come from rainspouts which are illegally connected with the sewer, or through perforations in manhole covers; but in view of the extended period of time during which the increased flow obtains, the larger portion of it undoubtedly enters the sewers by infiltration. Certain expenditure is warranted now to reduce this infiltration because of the saving which would be effected in pumping costs, while the matter will be even more important when new charges must be paid to the city of Philadelphia for pumping or treatment of the sewage on the basis of the quantity of sewage delivered.

At some time in the past, three hundred feet of iron pipe were installed on Morris Avenue to replace vitrified-clay pipe which had been laid at a creek crossing. This construction is said to have greatly reduced infiltration at that particular location. Undoubtedly there are other weak spots in the collecting system which can be located by observation in the field during and following rainfall.

Reduction of the quantity of sewage flow following rainfall is, of course, also important from the standpoint of preventing the overflow of sewage into Mill Creek, which will occur if the storage and pumping facilities are exceeded. There is no record of the number of occasions on which overflows have occurred in the past, except that they have occurred about once a year, and that an overflow occurred in July, 1919.

South Ardmore Station

Pumping station B, located in South Ardmore, on County Line Road, is still equipped with the initial installation of pumping units which were put into operation in 1904. The equipment comprises two 35-h. p. Backus gas engines, directly connected to two 8½″ x 10″ Deming triplex pumps. These units have developed about 30,000 gallons per hour capacity operating singly, and 45,000 gallons per hour when operated jointly. The static lift is only 52 feet, and the force main consists of 3,210 feet of 10-inch cast-iron pipe. For some time past, gas drawn from the domestic gas supply has been used as fuel in the gas engines.

The pumping operation at this plant is also intermittent, since storage tanks are provided. It has been particularly necessary to remove gritty materials from the sewage because of the injury to the pumps. The grit chamber being too small to accomplish effective removal of grit, a considerable quantity of grit accumulates in the storage tanks. In fact, one of the two sewer lines entering the plant does not discharge into the grit chamber. These defects could be remedied, but it is possible for this pumping station to be abandoned and the sewage from the tributary district discharged under contract into the sewerage system of Haverford Township, which is now being completed. This arrangement is recommended particularly in view of the obsolete pumping equipment and the difficulties of operation.

The sewage flow to this plant is unduly increased during and following heavy rainfall, just as at the Mill Creek plant. From a normal flow of seven inches per hour into the basin, we are informed that the quantity jumps to about 14 inches following a rain of several hours' duration, and if the rain continues for a half day or more the flow may reach 16 or 18 inches. However, the increased flow recedes much more quickly than at the Mill Creek station. It is reported to us that the pumps have always been able to handle the flow, and that there has been no overflowing of the basin into the nearby creek. With the prospect that the pumping station will be discontinued, the increased sewage flow following rainfall does not present a problem of pumping capacity, but will serve to increase the cost of disposing of the sewage into the sewers of Haverford Township if payment is made on the basis of quantity of sewage flow. Accordingly, it is recommended that a field survey be conducted in the district tributary to the South Ardmore pumping station to determine the source of increased sewage flow following rainfall.

Cynwyd Station

The Cynwyd pumping station was put into operation in 1914 and has a small tributary district. It is equipped with two six-inch motor-driven single-stage Buffalo centrifugal pumps operated by automatic control. One pump is set to operate when the storage basin is filled to a four-foot depth, and is shut down when the two-foot level is reached, while the other pump is thrown in when the basin fills to the five-foot mark. The storage basin has an overflow at the seven-foot level and holds 3,000 gallons per foot of depth. The pumping capacity of a single unit has been found to be about 25,000 gallons per hour, so that on the average day one pump is in operation for periods from 14 to 16 minutes each at intervals of from two to four hours, depending upon the quantity of sewage flow. The combined pumping capacity of both pumps does not greatly exceed that of a single unit because of the limitations of the 2,500 feet of 10-inch discharge main. The static head against which the pumps operate is 90 feet, and the motors provided seem to be rather light to carry this load.

The sewage flow at this plant is also greatly increased at times of rainfall. This increased flow does not now present a problem of pumping capacity, but on account of prospective expense of sewage treatment it should be reduced if it is feasible to do so.

Developments in Pumping Equipment

Since the Cynwyd station is the most modern of the pumping plants, its equipment is the best suited to the work involved. Developments in the design of pumping equipment made since the other two pumping stations were originally equipped have served to reduce greatly the installation costs and the attention required in operation. The difficulties to be encountered in the extension of the sewerage system by adding new pumping districts have been greatly decreased with the introduction of motor-driven centrifugal pumping units which can be automatically controlled and operated. All operating attention is not eliminated by any means, but constant attention is not necessary, and one man can supervise several plants if he is provided with transportation.

In the design of the proposed pumping plant for the district north of Narberth, it will be possible to improve on the arrangements at Cynwyd. Uninterrupted service being much more important than high theoretical efficiency, it is advisable to use the simplest type of pump which will show a minimum of wear. Centrifugal pumps designed especially for sewage are now to be had. It is also advisable to provide motors of generous capacity because of the heavy materials to be handled.

Plant Operation

There are six employes assigned to the supervisor of pumping stations, but the time of some one employe is generally occupied with the inspection work on sewer construction or other duties connected with the sewer system. Of the remaining five, three are stationed at the Mill Creek plant and two at the South Ardmore plant. The plants are operated on a two-shift basis, with working hours from 8 A. M. to 5 P. M. and from 8 P. M. to 5 A. M., which leaves the plants unattended normally for three hours both morning and night. Since the pumps in both of these stations are hand-operated, the pumping operation is so arranged that the storage basins are pumped down just before the end of the shift. When occasionally increased sewage flow makes it impossible to shut down the pumps at the nominal end of the shift, the operator stays on duty until relief arrives.

The working arrangements described appear to have worked out quite satisfactorily and have resulted in a saving in money to the township over the more usual three-shift operation. To place these two plants on a three-shift basis would require the services of at least six operators, with only one man on duty at one time, whereas five men now handle the work and there is a second man on duty at Mill Creek station during the day shift who can fill in at times of emergency. Daily records of pump operation are kept on improvised forms at the two larger pumping stations. It would prove more advantageous to have printed forms provided for this purpose, as well as a monthly operating sheet on which the daily results could be summarized. In order to furnish information which will be useful in the future, some record should be made of the amount of increased sewage flow occurring after rainfall. It is also advisable to make and record periodic test runs of all the pumping units. This information, which can be recorded without any appreciable increase in the duties of the operators, will give an appearance of more business-like operation.

The Cynwyd station does not require continuous supervision, but ordinarily it is inspected twice daily. One of the daytime operators at the Mill Creek plant visits the Cynwyd plant early in the morning on his way to Mill Creek, while in the afternoon the supervisor of pumping stations usually makes a trip there. A time-clock is provided, but on the occasion of our inspection it was not running. It should be kept in operation to afford an exact record of supervision. While the pumps are started and stopped automatically, there is no alarm given if the current is discontinued and neither pump can operate. At present the supervisor pays personal attention to this, and makes extra trips to the plant if any difficulty is anticipated. It is recommended, however, that an alarm bell be installed at some central point which would ring when the sewage level in the storage tank approaches the overflow level. Such an alarm should also be included in the arrangements of any new automatically controlled plants.

Storage Basins and Removal of Grit

One item of expense in the operation of the sewage-pumping stations is the cost of cleaning out the sewage-storage tanks at the three plants. This work has been performed annually under contract. In the year 1921, $132 was expended for this work, representing six days' work at $22 per day for three men and a team and the use of sludge barrels. The material removed is composed of both grit and organic solids and is hauled away and buried.

As stated, these tanks were installed to permit intermittent pump operation, but also for the very important purpose of settling out gritty materials that were injurious to the valves on the old reciprocating pumps. This necessity no longer exists, because only centrifugal pumps are in operation at the Mill Creek and Cynwyd stations, while the South Ardmore station will probably be eliminated eventually. Accordingly it is advisable to change the mode of operation at the Mill Creek and Cynwyd plants. Unless there is good reason why gritty materials should not be pumped into the gravity sewers which discharge into the Philadelphia sewers, then only such materials should be removed from the sewage which flows to the pumping units as will damage the centrifugal pumps. The coarse racks now provided at both plants should almost entirely accomplish this object.

At the Cynwyd station, while the storage basin is small and is sloped toward the pump intake end, advantage is not taken of this condition to pump out all solids entering the basin. In fact the pump shuts off when the sewage level is two feet above the bottom. By changing the automatic control, the basin can be kept reasonably clean and only a light load of solids will be carried at each pumping. It is important that the screen at this plant should be cleaned more frequently than at present.

At the Mill Creek station the pumps are operated to drain the storage basins, but a certain amount of grit and organic solids remains in the basins. This should be loosened and pumped out frequently rather than allowed to accumulate for a year's time. A fire stream is very useful in flushing out such material, but since there is no water available, it might be possible to tap the discharge main and use sewage. This will not be troublesome if the screens are effective in removing rags and sticks from the sewage.

The major portion of the grit is carried into the basins during periods of rainfall. If it is advisable to remove some of it, a special grit chamber should be constructed which would be used only when the sewage contains much grit. None of the existing basins is designed properly for the removal of grit. Grit basins should be continuous flow basins, and not storage basins, with a velocity of flow about one foot per second, which is slow enough to remove grit and not remove appreciable quantities of organic solids. Since it is reported that the screen at the Mill Creek plant is inadequate during periods of maximum flow, it is suggested that a combined screen and grit chamber might be installed, perhaps with housing over the screen that would permit an attendant to clean the screen easily in all kinds of weather.

Sewer Rentals

One of the duties of the health and drainage department is to prepare bills for the collection of sewer rentals. The purpose of sewer rentals has already been discussed in the chapter on Finance and Accounting. The rentals are based upon the number and kinds of plumbing facilities connected to each house sewer or drain. The township ordinance approved March 1, 1905, fixed the rates per appliance that now appear on the bills, but a flat reduction of 25 per cent was made effective on January 1, 1907, while in 1915 the total reduction was made 30 per cent.

Because the rentals are based upon the plumbing facilities connected, it is necessary to keep rather detailed records of such facilities. When a permit is sought for connecting a house with the township sewerage system, a record is given of the plumbing facilities upon which the initial sewer rental bill is prepared. When changes are made in the facilities connected to the sewer, the township is not always informed, although many of the changes are picked up through the permits issued for plumbing work. Accordingly, it is necessary periodically to make an inspection of each property which is connected with the sewer in order to check up the plumbing facilities.

Such an inspection was made during the summer of 1921 at a cost of nearly $600. This expenditure was amply justified, as is shown by the substantial increase of $3,710.93 in sewer rental bills for 1922, as against increases for the years 1917-1921 averaging about $1,700, although the number of permits for new sewer connections in 1922 did not exceed the average number for the five years previous. The house-to-house inspection was begun by a plumber, who soon resigned from the job, and was then put into the hands of two young men who were each paid $100 a month. Reports have reached the township office that these inspectors did not actually inspect the appliances in each house, but often accepted information from other persons without verification. Because inspections of this kind are usually unpopular with many householders, it would appear to be desirable next time to employ inspectors of greater experience, possibly with a knowledge of plumbing work.

GARBAGE COLLECTION AND DISPOSAL

Free collection of garbage is provided by the township in the more populous sections of the township, as is shown on chart IV-2. This service was begun in the year 1914 on a

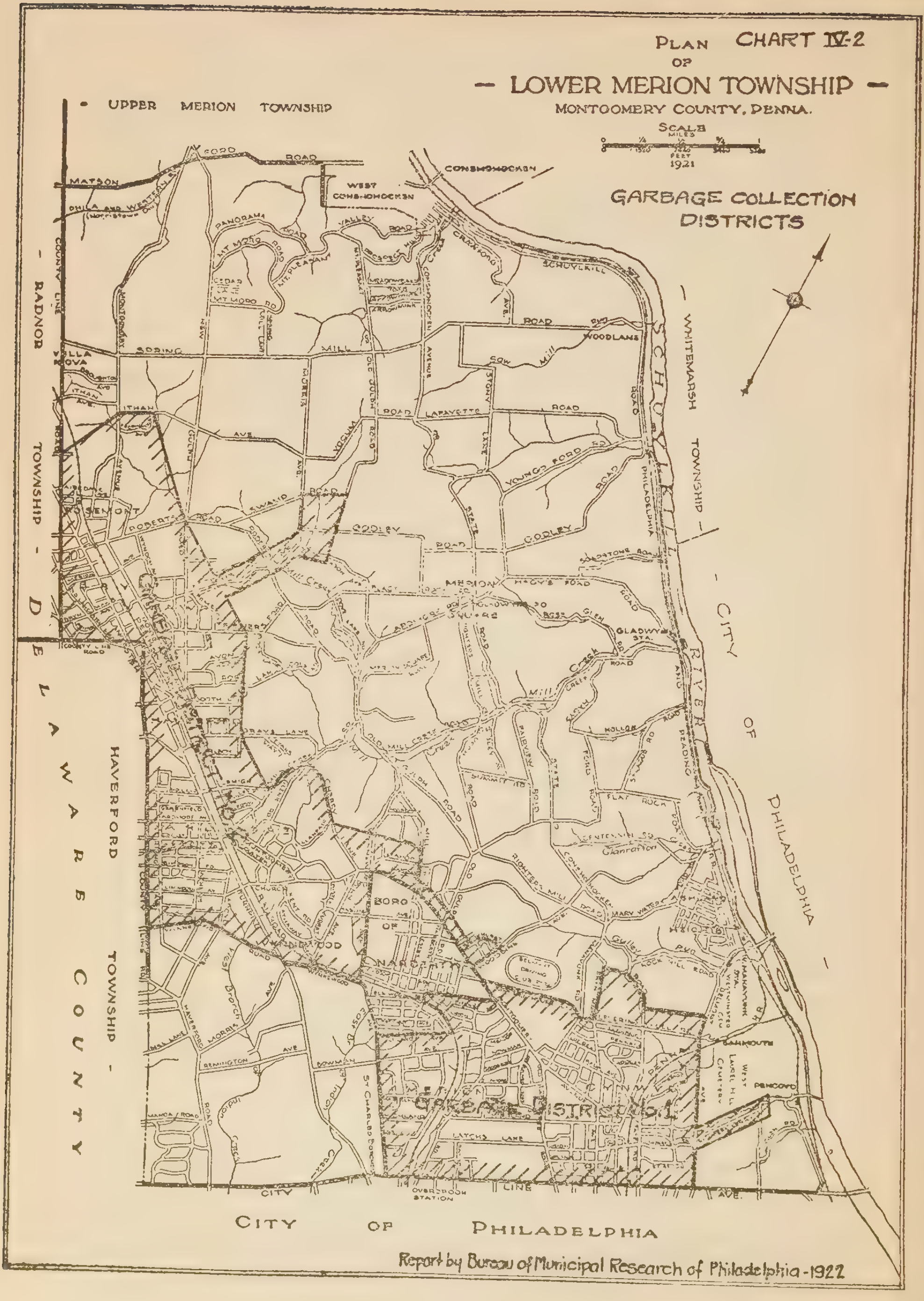

CHART IV-2

PLAN OF
– LOWER MERION TOWNSHIP –
MONTGOMERY COUNTY, PENNA.

GARBAGE COLLECTION DISTRICTS

Report by Bureau of Municipal Research of Philadelphia - 1922

smaller scale than the present and has been gradually expanded. The work has been performed by contract at the following prices since 1914:

Period	Contract Price Per Year	Contractor	Method of Disposal	Other Details
1914–1916	$12,000 on two-year basis	P. J. Lawler	Incineration	Sole bidder
1916–3/31/18	Same price by three extensions of contract	P. J. Lawler	Incineration	2 bids received Oct. 1916 were higher than contract price and were rejected.
4/1/18–3/31/19	$10,000	E. W. Claypole	Pig feeding	Nine bidders Feb. 1918. Low bidder failed to execute contract.
4/1/19–3/31/20	8,000	Claypole & Smith	Pig feeding	3 bidders
4/1/20–3/31/21	10,000	" " "	" "	Sole bidder
4/1/21–3/31/22	12,500	" " "	" "	" "

The bids received in February, 1918, and in March, 1919, were on the alternative basis of incineration or pig feeding for the disposal of the garbage. Much lower prices were received under disposal by pig feeding because of the large profits then accruing from such feeding. Bids received in both 1920 and 1921 were only on the basis of disposal by pig feeding. There was only one bidder each time and the bid price has increased each year. These conditions may make certain changes advisable in the manner in which the work of garbage collection and disposal is performed.

Underlying Principles of Such Work

To perform the work of garbage *collection,* very little investment is required on the part of the contractor, but the work of garbage *disposal* requires a greater investment even though pig feeding is permitted. New contractors hesitate, therefore, to enter competition with the old contractor, particularly if the contract is only for a term of one year. Lengthening of the contract period might bring in new competition but contracting for a long period has certain disadvantages to the township.

Garbage disposal is a form of activity of very limited extent from a contracting standpoint. Contracting for such a function holds forth to the township practically none of the advantages that obtain in many fields of contract work, in which there are a number of firms which have special facilities and knowledge that can be employed to the advantage of the township. The disposal of garbage is a necessary public service in which certain risks must be taken that can usually be assumed more cheaply by the township under direct control of the work than by paying a contractor to assume these risks. The general experience of American municipalities points to the desirability of the municipality's providing the facilities for garbage disposal, particularly to avoid the establishment of a monopoly in the bidding for the work. One of our large eastern cities has just paid the price of neglect of this principle when it was forced into a corner by the absence of bids for garbage disposal and was obliged to buy the disposal plant used by the old contractor, which constituted the only facilities for garbage disposal that could be utilized at the date when the old contract expired.

It is, accordingly, advisable that the township should give attention to the problem of providing township facilities for garbage disposal to be operated by the municipality or by contract as the best interests of the township may direct. Under section 380-XII of the township code, the township is empowered "to provide, by contract or otherwise, for the collection and removal of ashes and garbage." There can be little doubt that this provision empowers the township to provide garbage disposal facilities, but if it does not, additional powers should be secured from the legislature.

It is obviously beyond the scope of this investigation to make any recommendations as to the kind of facilities to be provided, but certain general observations can be made. Disposal of the garbage produced in the township at a point within the township will avoid complications with the public authorities of surrounding jurisdictions. This fact is of no importance so far as facilities provided by the township are concerned, because under existing law they could only be located within the township, but it is of importance if a contract for disposal is awarded under which the contractor may maintain facilities outside the township. The net cost of garbage disposal when income is derived from the sale of by-products, as in garbage reduction, or by the sale of swine, as in pig feeding, depends upon the market prices, which were at an extremely high level during and immediately after the late war, but are very much lower now, and will probably not soon return to the high war level. Processes by which a return is secured from the valuable constituents of garbage require that the garbage should be collected separately from other house refuse. Since the time is rapidly approaching when all house refuse must be collected and disposed of by the township, it is advisable to study the possibilities of the disposal of garbage in conjunction with other house wastes.

Comments on Existing Arrangements

While the specifications, upon which bids for garbage collection and disposal are based, require that the pig-pens and grounds shall be maintained in a sanitary condition whether they are located inside or outside the township, the bidder is not required to give with his bid a description and the location of the facilities which he proposes to use, so that the committee can pass upon his ability to perform the necessary work. This addition to the form of bid is advisable to protect the township from the inconvenience which would follow the award of the contract to a firm possessing inadequate facilities for garbage disposal. Such information in advance, if indicating that the contractor proposed to dispose of the garbage outside the township limits, would also help the committee to determine what complications might arise from this practice.

The most striking inconsistency of the existing garbage-collection contract lies in the fact that although the contractor is required to collect garbage from all premises within the specified areas, and is subject to a penalty of 50 cents per day for each house from which he fails to remove garbage, the township grants permits to other persons to collect garbage anywhere within the township. These persons are in no way responsible to the garbage contractor. This practice probably operates to the financial disadvantage of the township, since, although the contractor's cost of collection is not appreciably reduced, he loses the value of such garbage as may be privately collected.

This disadvantage can be overcome to a considerable extent by licensing the private collector only as a representative of the contractor, who would be responsible to the township for the work performed by the private collector. Under such an arrangement the contractor would be able to assign certain routes to private collectors with the consent of the township. Under existing conditions, complaints of the lack of garbage collection are sometimes due to the failure of a licensed private collector. This is a source of annoyance and inconvenience, even though the garbage contractor makes collection immediately on notice from the township office. The private collector is also inclined to collect from the best sources of garbage and leave the poorer garbage to the contractor. While the private collector might be permitted to collect garbage outside the contract area, his operations within that area result in distinct disadvantages.

Private Collection Can Be Prohibited

It is within the powers of the township to prohibit the operation of private garbage collectors. There are a number of court decisions to support this power. Decisions in several lower courts in Pennsylvania prior to the year 1909 held that such a prohibition was a deprivation of property without due process of law (see for example Kussell v. City of Erie, 8 D. R. 105). This view, however, has since been overruled by the United States supreme court (see Reduction Co. v. Sanitary Works, 199 U. S. 306, and Gardner v. Michigan, 199 U. S. 325). More recent decisions of Pennsylvania courts have conformed with the views taken in these cases and have emphasized the importance of centering the responsibility for the prevention and removal of public nuisances affecting the public health. In Butler v. Logan, 19 D. R. 952 (1910), it was said that "a municipality may, in the exercise of the police power reposed in it, grant exclusive privileges in order to conserve the public good." (See also Harrisburg v. Martin, 20 D. R. 952, and Marple v. Pfanner, 21 D. R. 847 and 851.)

HOUSE NUMBERING

One of the duties of the health and drainage department which seems rather foreign to its normal work is the assigning of official house numbers. The system of house numbers in use was adopted by an ordinance passed July 20, 1910. It provides that for Overbrook, Merion, Narberth, Wynnewood, Ardmore, Haverford, Bryn Mawr, and Rosemont, Lancaster Avenue shall be the dividing line for numbering all streets which extend northeast and southwest, while Cricket Avenue, Anderson Avenue, and Mill Creek Road form the zero basis of streets extending northwest and southeast. For Bala and Cynwyd, City Line Avenue and State Road provide the zero axes from which the houses are numbered. The block or square is accepted as the basis of changing the numbering, with each 25 feet, more or less, of frontage assigned a number.

The street and road layout in the township is such as to make the work of numbering exceedingly difficult. This difficulty is pronounced on roads such as Montgomery Avenue, which so frequently changes its course, and on the elbow streets and streets of serpentine direction that are a part of the more recent land developments. The numbering of many of these latter streets is of only minor importance, because they are so short that if the visitor can find the street itself, it does not take much additional trouble to search out the house number. The numbering of the main thoroughfares, however, is of greater importance; if possible, the visitor should be enabled, with some degree of certainty, to locate a house by its number. For that reason it is recommended that consideration be given to the advisability of abolishing the existing systems and of carrying the city of Philadelphia numbers through the township on streets generally perpendcular to City Line Avenue, with Lancaster Avenue as the zero axis for all other streets.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

In providing drainage for house sewage, the township has been very progressive. The accomplishments are all the more worthy because the amount of sewage to be pumped has necessitated three pumping stations. The facilities have generally kept abreast of the demand and two important extensions are now contemplated. Practically all the built-up portions of the township are provided with sewers. One important exception is Ashland Heights or West Manayunk, where sewerage must await facilities for sewage disposal. Sooner or later it will be necessary to provide drainage for the large areas north and east of the existing sewer systems. This, when completed, will permit the elimination of existing pumping stations. It is recommended that a study be made of this problem at once in order that extensions now proposed may be planned to fit into a comprehensive scheme of development.

It is recommended that the township prepare all plans for private sewer construction. If the present methods are continued, the health and drainage department should set forth definite principles of design to govern the plans submitted to the township for approval, analogous to the specifications used by the township to guide its own construction work.

It is recommended that the sewer-flushing work be radically modified, eliminating all but the necessary flushing of flat sewers and ends of laterals, and that its cost be further reduced by providing a motor-drawn tank-wagon, by eliminating the majority of the water connections, and by reducing the employes required. It is recommended that so far as practicable other sewer-maintenance work be performed by township forces, with the elimination of numerous odd jobs now performed by a contractor on a time-and-material basis.

The township has wisely maintained direct control over the connecting of house drains with township sewers by handling all such work through one contractor. While it has evidently been the purpose of the township to fix the charges for such work at amounts just sufficient to balance its cost, there was a deficit in the fund each year from 1917 to 1920, and a surplus in 1921. It is recommended that the charges be fixed now at an amount just sufficient to cover the present cost, without regard to past losses, with all elements of cost figured in, such as the cost of repaving over ditches, and that the charges be adjusted each year if there is an appreciable change in the contract prices of doing the work.

It is recommended that a thorough study be made of the conditions which cause greatly augmented sewage flow at all three pumping stations following rainfall, in the interest of economy of pump operation and of reducing future charges by the city of Philadelphia for sewage pumping or treatment which, under the 1902 contract, will be determined on the basis of the quantity of sewage flow. It is also recommended that the operation of the sewage-pumping stations be conducted to pump out currently all solids in the inflowing sewage and to keep the basins as free from accumulations as possible. It will be of value to keep more complete records of the operation of the several plants, including the quantity of sewage flow, pump tests, and other details. The Cynwyd station, as well as any new automatically operated pumping stations, should also be provided with an alarm to give notice at some other township station when the non-operation of the automatic pumps creates a danger of the sewage overflowing the storage tanks.

Under the present method of contracting for the collection and disposal of garbage from the more populous sections of the township, it is recommended that no permits be issued to private collectors to operate within those sections except as duly appointed and approved representatives of the contractor, who would be responsible for the work performed by the private collector.

It is recommended that the township take steps to provide its own facilities for garbage disposal in order to insure that this important community service will be continuously and properly provided for, as well as to guard against the danger of non-competitive bidding when there is only one bidder for this work.

It is recommended that consideration be given to the advisability of abolishing the present system of house numbering, which is purely local in character, and of continuing the city of Philadelphia numbers from City Line Avenue.

The strictly office work connected with the sewerage system is many years behind and should be brought up to date as soon as possible. It would probably be best if all work relating to the sewerage system, including office work, records and drafting and the actual maintenance work, were combined with the other forms of engineering work. These suggestions are discussed subsequently in the chapter Appraisal and Outlook, together with recommendations for revising the work of the health and drainage committee.

CHAPTER V

BOARD OF HEALTH

HISTORICAL

The board of health of Lower Merion Township was organized March 13, 1908, in accordance with an act of assembly approved May 29, 1907. The powers conferred by this law fulfilled a need that had been recognized by the board of township commissioners since its organization in 1900. While the board of commissioners had been given powers in the act of April 28, 1899, to regulate drains and to abate nuisances, it had no control over contagious diseases.

Accordingly, public health activities in the township had their beginning in the organization of the board of health. Of the five persons first elected to the board of health, three have served on the board continuously since that time. As its secretary, the board of health has from year to year chosen the secretary of the board of township commissioners. Its first health officer was a civil engineer who was also superintendent of the health and drainage department. These appointments served to bind the board close to the other branches of the township government, particularly to the department of health and drainage.

ORGANIZATION AND DUTIES OF BOARD OF HEALTH

The act of assembly approved June 12, 1913, has superseded the original law under which the board of health in the township was organized. The five members of the board are now appointed, for overlapping terms of five years, by the chairman of the board of township commissioners, one member being appointed each year. The members serve without compensation. The board selects its own president and secretary (the latter may be a member of the board) and a health officer (who must not be a member of the board). The salaries of the secretary and health officer are fixed by the board, subject to ratification by the board of township commissioners.

The board holds a regular meeting on the third Wednesday evening of the month, and such other meetings as are necessary. These meetings are not open to the public, although the representatives of one or two civic agencies are present by invitation of the board. Since the paid employes are small in number, and are not qualified by training to decide all questions arising from their work, the board itself passes judgment on more questions than would normally be necessary in a larger municipality. Between meetings the president of the board is in close touch with the work at all times and personally handles a great many matters, including some official correspondence.

There are several committees within the board which give detailed study to the problems that require such treatment. In addition to this, the township area is divided into five districts and each member of the board assumes watchfulness over one district.

The board of health is empowered and charged by law with the duty of enforcing the state laws, the regulations of the state department of health, and the regulations of the advisory council of the state department, as well as its own regulations for the control of communicable diseases. In preventing infections from such diseases the board is empowered to establish emergency hospitals.

The board is given the right of access either on its own part or on the part of its health officer or other subordinates to any premises in the township where it is suspected that there is any infectious or contagious disease, or nuisance detrimental to the public health. In the abatement of such nuisances the board is empowered to proceed on its own part if the property-owner does not obey the order to abate the nuisance, and to recover the costs of such abatement from the owner.

Under the law of June 12, 1913, the state commissioner of health is empowered to enter into and to administer the health laws in the township if the board of health is inefficient or if conditions found by him are such as to constitute a menace to the lives and health of people living outside the township.

Employes and Activities

The only full-time employe of the board is the health officer, although two other employes who give part-time service to the board devote the remainder of their time to the service of other departments of the township. The present health officer has held the position three years, and for several years prior to that time acted as assistant health officer and performed certain other duties connected with the health and drainage department. He had no prior training or experience in public health work, but has shown an excellent aptitude for the duties assigned him.

The summaries presented in the annual report of the board of health for the year 1921 afford a clear picture of the kind and amount of work performed by the health officer. During the year 935 cases of communicable diseases were handled, each requiring the usual procedure of placarding, giving instructions, preparation of reports, and finally fumigation, involving a total of 1,260 rooms in occupied houses. In addition, 29 vacant houses were fumigated. The health officer also collected for analysis 567 samples of milk, 104 of cream, 78 of water, 12 of ice cream, and 6 of ice. To this record must be added semi-monthly inspections of piggeries, monthly inspections of milk houses and dairies, and semi-annual inspection of restaurants. Nearly 300 specific complaints were investigated and many nuisances abated. It has been possible for one man to handle this amount of field work in addition to miscellaneous office duties only by tireless activity and by working long hours. To cover the large area of the township it is of course necessary to use motor transportation; during the month of June, 1921, for instance, the car was driven 1,117 miles.

The inspection of plumbing is done for the board by the superintendent of the health and drainage department. The position of secretary of the board of health is held by the secretary of the board of township commissioners, as already stated. His duties for the board of health include the keeping of the minutes and accounts of expenditures, the drawing of orders for the payment of moneys, the weekly reporting of cases of communicable disease to the state department of health, and partial preparation of the annual report. The secretary handles the board's correspondence, which is numbered and listed in a numerical index. The correspondence is bound in a yearly volume, and is indexed and cross-indexed by subjects in a card file. This arrangement facilitates access to the desired letters or reports; but the system can be improved by numbering the letters as they are received, rather than when they are filed after they have been acted upon.

An explanatory note should also be made in the numerical index when the letter is removed from the secretary's office for any reason.

The township does not have laboratory facilities of its own, but pays for chemical and bacteriological analyses at a stipulated charge per sample. These analyses are made at his private laboratory by a chemist who is a resident of the township. He is designated as chemist for the board, makes monthly reports similar to those submitted by the other employes, and attends the monthly meetings of the board and special meetings as called upon. He was first engaged by the board in November, 1908, at a small monthly fee and has been re-engaged each year since. The amount of laboratory work has greatly increased since the early years, and in 1921 a total disbursement of nearly $2,012 was made for this purpose, while the expense of cultures is listed separately at $289.63. Although these expenses total a quarter of the entire 1921 expenditures, they are less than the probable cost of performing the same work would be in a laboratory equipped and operated by the township, although in the future it may become advantageous to establish a township laboratory.

EVALUATION OF THE COMMUNITY HEALTH

Information supplied by the township registrar of vital statistics indicates the following number of births and deaths for seven years for which the records are complete:

	No. Births Including Stillbirths	Total Deaths	Estimated Population	No. Deaths Per 1000 Population	
				L.M.T.	City of Phila.
1914......	377	234	20,149	11.6	16.1
1915......	358	237	20,769	11.4	15.5
1916......	417	264	21,388	12.3	16.0
1917......	403	254	22,008	11.5	16.9
1918......	398	451	22,627	19.9	24.1
1919......	374	281	23,247	12.1	14.3
1920......	395	344	23,866*	14.4	14.4

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*1920 census population = 23,866
1910 " " = 17,671

These figures indicate that the death-rate is on the average somewhat lower than that in the city of Philadelphia, which might be attributed to the relatively higher grade of residential development, although to afford a more exact comparison the number of deaths should be corrected to include deaths of township patients at hospitals in Philadelphia.

Communicable Diseases

The township records indicate the following prevalence of reportable communicable diseases from 1908-1921, which is compared with the city of Philadelphia:

Year	Total Reported Cases Communicable Diseases L.M.T.	Estimated Population L.M.T.	Number Cases Per 1000 Population L.M.T.	Number Cases Per 1000 Population City of Phila.
1908 (Partial Year)	238	16,871	..	..
1909	535	17,271	31.1	..
1910	493	17,671*	27.9	..
1911	659	18,291	36.0	18.6
1912	410	18,910	21.7	14.4
1913	954	19,530	48.0	21.7
1914	710	20,149	35.2	18.4
1915	538	20,769	25.9	23.8
1916	535	21,388	25.0	18.7
1917	500	22,008	22.7	17.7
1918	1837	22,627	81.2	54.1
1919	644	23,247	27.7	19.4
1920	907	23,866*	38.0	26.4
1921	935	24,266	38.5	..
(Average 10 years 1911-1920)			37.0	23.8

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*U. S. census figures

For the 10 years 1911-1920, these figures indicate an average incidence of 37.0 reported cases of communicable diseases to 1,000 population in the township, as compared with 23.8 cases in the city of Philadelphia. Carrying the comparison further to specific diseases, the township records show 602.8 cases of chicken pox per 100,000 population per year average for the period 1911-1920, while the city of Phladelphia shows only 210.7 cases; in measles the township shows 1,167.6 cases against 549.3 cases for the city, and in whooping cough the township shows 551.8 cases against 141.9 cases for the city. On the other hand, the township shows only 119.9 cases of diphtheria against 177.7 for the city, and 124.7 cases of scarlet fever against 133.1 cases for the city. These figures show that it is not safe to assume from the records of all reportable communicable diseases that there is a much higher incidence of such diseases in the township than in the city of Philadelphia, particularly in view of the uncertain relative extent to which such diseases are reported to the health authorities in each community. In fact, the higher prevalence indicated by the records for the township might only point to a higher percentage of cases reported out of the total number occurring; certain conditions would lead us to believe that on the whole more pressure is brought upon the practicing physicians to report cases in the township than in the city of Philadelphia.

The following table taken from the report of the board of health gives the distribution of all reported cases of communicable diseases and deaths from these communicable diseases by calendar years, with the total for the thirteen and a fraction years since the board of health was organized.

About 30 per cent of all cases of communicable diseases reported in the 13 years, plus, were cases of measles. In each of the years 1909, 1911, 1913, 1918, and 1920 there was a distinct epidemic of measles with the number of cases almost equal in number to those of all other communicable diseases combined. Chicken pox and whooping cough have each contributed about 15 per cent of the reported cases of communicable diseases, but without such marked epidemics as are shown for measles. These three diseases, however, have contributed very few deaths. Forty per cent of the deaths from communicable disease have occurred from pneumonia, and 30 per cent from tuberculosis, with only seven per cent from diphtheria.

Typhoid-Fever Death-Rate

The typhoid-fever death-rate is usually considered one of the gauges of the adequacy of the health-protection measures. This rate is extremely low for the township, averaging less than 2.5 deaths per 100,000 population for the years 1908-1921, while the maximum of any year was in 1910, with a rate of only about 12. In that year there were 32 cases of typhoid fever in the township, many of which were probably due to pollution of the water supply. There have been no outbreaks since 1910 traceable to this source, but in 1921 there was an outbreak of typhoid fever traced to milk supplies that resulted in 22 cases in Lower Merion Township and 37 cases in Haverford Township. This outbreak will be discussed later.

REPORT OF ALL CONTAGIOUS DISEASES IN EACH YEAR SINCE MARCH 13, 1908, TO JAN. 1, 1922

Year	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	Total
Chicken Pox	33	34	66	54	144	104	81	123	95	140	168	158	185	204	1,589
Diphtheria	20	17	23	30	37	11	26	52	9	9	17	37	21	67	376
Erysipelas	2	6	3	1	7	7	12	6	16	8	5	6	4	7	90
German Measles	13	11	36	7	7	21	202	14	12	40	224	7	13	8	615
Influenza	..	..	..	..	..	..	..	..	..	..	51	192	33	1	277
Infantile Paralysis	..	..	5	1	2	1	1	1	22	..	..	..	..	..	33
Measles	94	265	87	300	33	481	23	112	94	80	839	40	423	21	2,892
Meningitis	..	..	2	1	1	1	..	..	2	2	..	..	..	..	9
Mumps	12	67	66	21	47	209	76	41	4	37	194	18	19	267	1,078
Pneumonia	8	29	35	32	25	26	38	26	50	52	143	39	45	17	565
Scarlet Fever	17	50	26	40	32	30	41	8	24	6	22	22	34	36	388
Tuberculosis	9	22	8	20	28	16	12	11	29	28	12	13	11	18	237
Typhoid Fever	9	13	32	14	14	23	12	8	11	8	10	5	5	28	192
Whooping Cough	21	21	102	138	33	24	186	136	167	90	152	107	113	261	1,551
Hydrophobia	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Syphilis	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Total	238	535	493	659	410	954	710	538	535	500	1,837	644	907	935	9,895

REPORT OF ALL DEATHS FROM MARCH 13, 1908, TO DECEMBER 31, 1921

Year	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	Total
Chicken Pox	..	..	1	1	1	..	..	..	..	..	..	..	..	..	3
Diphtheria	1	2	5	..	3	..	..	1	1	1	..	3	..	3	20
Erysipelas	..	..	..	..	..	1	..	1	..	..	..	..	1	1	4
Influenza	..	..	..	..	..	..	..	..	..	..	..	13	1	1	15
Infantile Paralysis	..	..	..	..	..	..	..	..	6	..	..	..	..	..	6
Measles	..	..	..	..	..	1	..	..	..	..	1	..	..	..	2
Meningitis	..	..	1	1	1	1	..	..	1	1	..	..	..	..	6
Pneumonia	1	12	10	5	4	2	2	1	9	3	34	11	9	2	105
Scarlet Fever	2	2	4	..	2	2	..	..	..	..	..	..	..	..	12
Tuberculosis	2	11	2	12	14	4	3	1	6	9	3	2	7	2	78
Typhoid Fever	1	1	2	..	1	..	..	..	1	..	..	1	..	..	7
Whooping Cough	1	..	1	3	..	..	..	1	..	..	2	..	..	..	8
Total	8	28	26	22	26	11	5	5	24	14	40	30	18	9	266

Infant-Mortality Rate

Of equal interest with the typhoid-fever death-rate is the infant-mortality rate. Information on this subject was not available from the township reports and had to be picked out from the registrar's records.

Year	Total Births Minus Stillbirths	Total Deaths Under One Year Not Including Stillbirths	Infant-Mortality Rate No. Deaths Under One Year for Each 1000 Living Births L.M.T.	Phila.	Pittsburgh
1918....	387	44	114	124	139
1919....	354	20	56	91	114
1920....	425	36	85	89	110
1921....	498	24	48	76	89

These figures show that the infant-mortality rate in the township is lower than that in the adjoining city of Philadelphia. Comparative figures unfortunately are not available for Pennsylvania communities of the same size as the township. The rates for 1919 and 1921 are unusually low; this may be due partly to the increase in the total number of births, caused by births at the new Bryn Mawr Maternity Hospital, which receives patients from outside the township, although there may have been as many or more births, in township maternity cases at hospitals in Philadelphia, that are accredited to the city of Philadelphia.

Geographical Distribution of Morbidity

The township board of health reports do not show the geographical distribution of the reported cases of communicable diseases other than the distribution given in the weekly report over the five health districts. Some information of this kind was furnished us by The Suburban Association of the Main Line for the year ended April 30, 1920. Of the 875 cases of communicable diseases reported during that year, the largest number—190—was from Ardmore, although Bryn Mawr and Cynwyd were not far behind Ardmore. Ardmore showed the greatest number of whooping-cough cases, Cynwyd of measles, and Bryn Mawr of chicken pox. Such a scattering of the maximum prevalence of different diseases is not so surprising in view of the more or less isolated locations of these communities in the township.

The compilation of cases by The Suburban Association was made as a part of a study of the disease prevalence in the township with particular relation to housing and sanitary conditions. Of the 190 cases of communicable diseases reported from Ardmore in the year ended April 30, 1920, one-third were from sections which have poor housing conditions. Of the 67 cases of tuberculosis reported from Ardmore between January 1, 1915, and November 1, 1920, 70 per cent were from the same sections, while 12 per cent were recurrences of tuberculosis at the same house number. The 67 cases from Ardmore constituted 46 per cent of all tuberculosis cases reported from the township during that period.

Control of Communicable Diseases

The rules and regulations governing the control of communicable diseases are set forth fully in the provisions of state law (see act of July 17, 1919, P. L. 1010) and in the regulations of the state department of health and of the advisory board. The township board of health has but little discretion in the matter of enforcing these regulations, although it is empowered by law to establish additional rules and regulations regarding isolation and quarantining. It is not necessary here to list the diseases that have been declared communicable and the existence of which must be reported by physicians to the board of health of the township. The law requires that the local health authorities shall quarantine the premises affected and any person or persons that may have been exposed to contagion. The quarantine placard is maintained in place until the expiration of the quarantine period as determined by the health authorities, or by the provisions of law. Upon the removal of the placard by the health officer, the premises are disinfected in accordance with the regulations of the local health authorities and of the state department of health.

It is the duty of the local health authorities to furnish to all schools a daily record of persons who are suffering from certain of the communicable diseases. It is also incumbent upon the school authorities to exclude from school any pupil or other person having suspicious symptoms, pending the action of the health authorities, and to notify the health officer.

Record Forms

The board of health provides physicians with postal-card report blanks for reporting the onset and termination of cases of communicable diseases. Some reports are made also by telephone to expedite quarantine. Other postal-card forms are used for various purposes.

As each postal-card report of a case of communicable disease is received, entry is made into a bound record book, while the postal card itself is used by the health officer in his trip to the premises and is kept as a record. The record book also shows the termination of the case and the date of disinfection. There is no current index of cases by street location. There are also no spot maps in use to show the distribution of cases over the several built-up areas of the township.

Card Record Recommended

It is recommended that the system of office records be expanded to afford a better picture of current conditions and to enable more rapid determination of desired statistical information. It has been suggested in the past by the state registrar of vital statistics that case records be kept on cards instead of in a bound book, since the cards can be classified when filed. It is recommended that such a card record be prepared to record all the essential information about the case, including a record of all special notices sent out, dates of visits to premises, and the date of fumigation. These cards should be numbered consecutively and may be of varying colors for different diseases, if so desired. They can be conveniently filed by location, first in a current file while the case requires attention of the board of health, and then in a closed file, arranged geographically. The latter file will be valuable in furnishing information on the extent to which communicable diseases appear in the same neighborhood and the same house. The current file may also be subdivided and the cards giving information concerning any one disease separated from the rest. This arrangement might prove convenient temporarily if there should be a severe epidemic of any one disease, or permanently in diseases like tuberculosis, where the cases are usually under the attention of the board of health for a protracted period.

Weekly Health Report

With such a card index of cases in use, the book record as now kept would not be entirely essential, although there would have to be some tabulation of the cases in order to send a weekly report to the state department of health and to prepare the health officer's weekly report. The latter report gives the number of new cases of each disease, the total number under quarantine, and the total number reported since the beginning of the calendar year, grouped by five districts, each of which is designated by the name of the member of the board of health who keeps a watchful eye on that territory. Copies of the weekly report are sent to all school principals, to practicing physicians who reside in the township, and to the boards of health in the contiguous townships of Haverford and Radnor, which in return furnish Lower Merion Township with a weekly report of the prevalence of communicable diseases in their jurisdictions. It has been recommended by the Montgomery County Medical Society that the township board of health combine in its weekly reports the prevalence of communicable diseases for all three townships, but the board of health has not approved this plan. The issuance of this weekly report is a very commendable activity of the board of health; but its usefulness might be increased somewhat by giving a comparison of new cases for the week, and of the total for the year, with the corresponding periods of the preceding year, and possibly by increasing the number of districts or geographical subdivisions under which the cases are grouped.

Reporting of Cases by Physicians

As a whole, it would appear that the board of health is securing good cooperation from the physicians in the matter of reporting cases of communicable disease, although it is necessary occasionally to employ more than mere persuasion. Furthermore, the health officer is always on the alert to pick up unreported cases. It was not possible to make any detailed investigation of this matter, because of limited time, and the only specific information available relates to tuberculosis. By letter of December 6, 1915, the state commissioner of health notified the township board of health that in the first nine months of 1915, six far-advanced cases of tuberculosis in the township had not been reported to the state department. Later he sent a list of those who had died from tuberculosis in those months for which no morbidity reports could be located in the state records as far back as 1912. As a result of this correspondence, the board of health directed that a letter be sent to all physicians requesting their assistance in conforming with the state law. The following information indicates that the reporting of tuberculosis cases has probably not improved materially since the year 1915.

In the total of 144 cases of tuberculosis in the township in the period from January 1, 1915, through October 31, 1920, which were tabulated by The Suburban Association, only 89 cases had been reported to the board of health as cases of communicable diseases, information on the remaining 54 being picked up through the death certificates. Of the 94 deaths from tuberculosis during that period, no record was found that 54 of them had ever been reported to the board of health, 15 were reported from 1 to 8 days after death, 18 were only reported from 1 to 45 days before death occurred, 13 from 3 months to 1 year before death, and 4 from 16 months to 3 years before death. The non-reporting of tuberculosis cases is encountered in many jurisdictions, and presents a somewhat different problem from the ordinary run of communicable diseases. It is important that the board of health should be more concerned with the tuberculosis cases now under treatment in the township. This is one of the tasks that require the employment of a public health nurse who can ferret out the cases of tuberculosis and give instructions in the care of the patients to reduce contact infections.

Unless there is a request for assistance in diagnosis, cases of communicable disease are not visited by an inspector with medical training, as is done in the city of Philadelphia, nor by a public health nurse as is done in some jurisdictions. Occasionally it is necessary for the health officer to call upon a physician for assistance; these requests are generally filled by those members of the board who are physicians. Ordinarily the health officer performs all the work connected with the case, placards the premises, issues orders for the disposition of persons who have been in contact with the patient, supplies a copy of instructions for the handling of the case, and in the end removes the placard and disinfects the premises.

Need for Public Health Nurse

It is very important to consider, however, whether the present cost of communicable-disease control is not too low, and whether it permits the carrying on of certain activities which might be very beneficial. The work now constitutes only the bare minimum required by law, without those refinements which may further reduce the prevalence of communicable diseases. It is recommended that the board should provide a person trained in the principles of the control of communicable diseases to handle cases of such diseases and to perform other duties as time may permit. Under existing conditions this service might be obtained most satisfactorily and economically by the employment of a qualified public health nurse. Such instructions as she might give in the proper handling of the case in the household would be of much greater value than the printed instructions now used, and her efforts might reduce the number of contact cases.

Fumigation

A considerable portion of the health officer's time is devoted to fumigation. The formaldehyde-chloride-of-lime method is used and has resulted in considerable economy over the formaldehyde-permanganate method used before the war. To the chemist of the board of health is due the credit for developing this less expensive but equally efficacious method. In the cost of chemicals and of the health officer's time, fumigation represents a large expenditure and should be reduced as rapidly as conditions warrant. Under the regulations of the advisory board of the state department of health which were promulgated on May 27, 1921, it was decreed that disinfection preceding release from quarantine from any of the infectious diseases except smallpox shall not require the use of formaldehyde, but that there must be a thorough sanitary cleaning of the infected room or rooms in a manner prescribed by the health authorities. A circular on sanitary cleaning was published in May, 1917, by the state department of health.

The township board of health has had the question of disinfection under advisement for some time, but has decided to continue the practice of fumigation in view of the uncertainty that the chemical cleaning would be properly performed in the household.

It would appear that there is a large field of activity open to the board of health in improving the manner in which cases of communicable disease are cared for in the household. If proper attention is paid to certain principles during the course of the illness, there is much less need for a thorough fumigation or sanitary cleaning. In this direction, public health nurses can be of great usefulness and it is not improbable that proper sanitary cleaning can be secured through their efforts, so that fumigation can be discontinued eventually.

Relations with Private Schools

Of great importance in the control of communicable diseases is the relation of the township board of health to the authorities of both public and private schools. There are a number of private schools in the township, some of them boarding schools, which provide the pupils with constant medical attention. Sometimes in the past where the board of health has closed private schools because of the existence of cases of communicable disease, there has been some friction with the school managements. The correspondence records show that the principal of one private school has been frequently in correspondence with the board of health concerning the wisdom of closing her school when facilities are provided for examining the pupils daily to detect suspicious symptoms. The practice of the board of health is to exercise its power to close a private school only if many cases of communicable disease exist. The board has apparently adopted a more liberal view in this matter in recent years and is desirous of keeping the schools open when this can be done with safety, but favors constant attention to the physical condition of the pupils.

Relations with Public Schools—School Nurses

Under the provisions of the state school code, the school board for the township is charged with the annual medical inspection of school children. This work is conducted independently of the township board of health, by medical inspectors appointed by the school directors, working on a part-time basis. The school board also is given authority by law to employ one or more school nurses. There has been some sentiment in the township for the employment of nurses by the school board, but the board has not yet decided to proceed with such a program.

The records show that the township board of health has been much interested in the use of school nurses. On January 30, 1920, a letter was written to the township solicitor inquiring about the powers of the board of health to employ school nurses. The solicitor informed the board that under the law the employment of school nurses was a function of the school board, and that if the board of health furnished such service there would be duplication of effort and expense. If, however, the board of health employs public health nurses to assist in the control of communicable diseases generally, it is not improbable that a coöperative plan could be arranged with the school board and that the benefits secured would result in other nurses being employed by the school board. It would seem advisable and economical for the taxpayers of the township, who must pay the bills for both the board of health and the school board, to have the school nurse service combined with the public health nurse service, particularly since the entire force could be used to advantage by the board of health during the vacation months.

Contagious-Disease Hospital

One deficiency in the facilities for the control of communicable diseases is the lack of a contagious-disease hospital in either the township or in the county. A movement has been under way for some time to obtain such a hospital and its need is generally recognized. On May 15, 1919, there was a meeting of representatives from the boards of commissioners and the boards of health of Lower Merion, Radnor, and Haverford Townships, together with the Main Line Citizens' Association and the Main Line Medical Society, to discuss the practicability of such an institution for the Main Line district. Representatives from Lower Merion Township seemed to favor such a hospital for Montgomery County because of the more favorable financing, although the facilities afforded might not be so convenient. It was reported that the trustees and staff of the Bryn Mawr Hospital were interested in the plan but that they would not undertake to finance a new department at that time.

On June 25, 1919, one of the county commissioners wrote to the board of health that a county contagious-disease hospital had been talked of for several years, but that the selection of a location had presented difficulties. Since then, however, the project has been sponsored by the Norristown board of health. The correspondence records show that on May 26, 1921, the township board of health wrote to the district attorney at Norristown endorsing the county contagious-disease hospital.

There are several disadvantages in a county contagious-disease hospital. Its location at Norristown, the county seat, would not be especially convenient. Also, under the act of May 24, 1917, which authorizes any county to establish such a hospital, its operation is vested in the county directors of the poor, who also supervise the county home and other county poor buildings. It is altogether too probable that a contagious-disease hospital under such auspices might soon enjoy the reputation of an almshouse, which would detract from its serviceability to the community. The possibility of only limited usefulness for a county hospital will readily be appreciated by those acquainted with the history of the Philadelphia General Hospital (Blockley) and with the difficulty experienced recently in removing the stigma of the almshouse from that institution even though its policies have been radically altered. It is true that the local board of health would have the power to require the removal of cases of contagious disease to the county hospital; but a broad use of such power, in the face of popular prejudice, might not be advisable.

For these reasons it is recommended that the board of health endeavor to obtain facilities for contagious-disease hospitalization at a point nearer than the proposed county hospital, of a kind and under auspices that will insure maximum usefulness to the community.

Bacteriological Tests

Examinations of diphtheria cultures are usually made by the chemist for the board, except that tests may also be made at the state laboratory in Philadelphia when it is desired to confirm the results. The latter service is free to the township, but is not as convenient as the work done by the township chemist.

Some other bacteriological tests are also performed by the chemist. During the typhoid-fever outbreak in the summer of 1921, a large number of Widal tests, and examinations of bowel and bladder discharges, were made to detect the source of infection. These tests were made at the state laboratory.

Control of Milk Supplies

The board of health, shortly after its creation in 1908, employed a chemist at a small monthly rate to make examinations of the milk and water supplies. The degree of attention paid to the milk supplies was gradually increased until in 1915 samples were taken of each milk supply once a month. At that time there were about 40 separate milk dealers. During 1915, 254 examinations were made of milk samples. The results of the bacterial counts were not very satisfactory, since the average for all dealers for the year was 651,930 bacteria per cubic centimeter, and 52 samples exceeded the standard of 500,000 bacteria set by ordinance. Fifteen samples were condemned for the presence of visible dirt, while 38 samples were found to be skimmed milk.

Sanitary Grades

Beginning with the month of May, 1916, each grade of milk sold by the various dealers was given a sanitary grade (on the basis of 100 as a perfect product) which was made up from the results of several laboratory tests. Each month a sanitary grade has been prepared as an average of the sanitary grades for the past four months, and, with the butter-fat content, has been published in the local newspapers. Sanitary grades are tabulated below for two months of the year, January and July, which represent extremes of seasonal temperature conditions.

SUMMARY OF SANITARY GRADES OF MILK SUPPLIES
Reported in January of Each Year 1917-1921

Sanitary	1917		1918		1919		1920*		1921		Totals		% in Each Grade	
Grade (%)	R	H	R	H	R	H	R	H	R	H	R	H	R	H
90 to 100	1	..	1	..	1	..	4	..	12	2	19	2	13.3	4.7
80 to 90	3	3	4	..	8	1	11	3	11	10	37	17	25.9	39.5
70 to 80	13	1	11	4	10	3	10	4	3	1	47	13	32.8	30.2
60 to 70	15	..	6	..	7	6	6	2	..	1	34	9	23.8	20.9
50 to 60	4	1	1	...	1	..	...	1	..	..	6	2	4.2	4.7
40 to 50	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	36	5	23	4	27	10	31	10	26	14	143	43	100.0	100.0
Yearly Total	41		27		37		41		40		186			
%90 & over	2.4		3.7		2.7		9.8		35.0		11.3			
%80 & over	17.1		18.5		27.0		43.9		87.5		40.3			
%70 & over	51.2		74.0		85.2		78.0		97.5		72.6			

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*December, 1919, figures used instead of January, 1910..
R = Raw Milk. H = Heated Milk (usually marked *Pasteurized*).

SUMMARY OF SANITARY GRADES OF MILK SUPPLIES

Reported in July of Each Year 1917-1921

Sanitary	1917		1918		1919		1920		1921		Totals		% in Each Grade	
Grade (%)	R	H	R	H	R	H	R	H	R	H	R	H	R	H
90 to 100	1	..	3	..	3	1	6	3	13	11	26	15	16.2	29.4
80 to 90	5	..	3	...	10	1	12	5	13	3	43	9	26.9	17.7
70 to 80	13	3	11	4	8	3	9	2	4	..	45	12	28.2	23.5
60 to 70	9	1	9	6	11	5	3	3	..	..	32	15	20.0	29.4
50 to 60	4	..	6	..	1	...	..	..	..	..	11	..	6.9	0.0
40 to 50	2	..	1	..	...	...	..	..	..	..	3	..	1.8	0.0
Totals	34	4	33	10	33	10	30	13	30	14	160	51	100.0	100.0
Yearly Total	38		43		43		43		44		211			
%90 and over	2.6		6.8		9.3		21.0		54.6		19.5			
%80 and over	15.8		14.7		34.9		60.5		90.9		44.1			
%70 and over	58.0		48.8		60.5		86.0		100.0		71.0			

R = Raw Milk. H = Heated Milk (usually marked *Pasteurized*).

An examination of the information in the preceding tables indicates quite clearly that frequent testing of the milk supplies, the publication of sanitary grades, the notifying of the milk dealers when the milk is not quite up to standard, and finally the prosecution of offenders for violation of the milk ordinance, have served to improve the general cleanliness of the milk supplies. Whereas only 51.2 per cent of all samples reported in January, 1917, carried a sanitary grade of over 70, in January, 1921, 97.5 per cent were over 70. The comparison of the results reported for July show only 58 per cent of all samples exceeding a grade of 70 in 1917, while in 1921 100 per cent were above that grade.

Comparison of Raw and Heated Milk

The following table is of interest in comparing raw and heated milks:

COMPARISON OF RAW AND HEATED MILK ON BASIS OF BACTERIAL COUNT AND SANITARY GRADES

	July 1916*		July 1919		July 1920		July 1921		Dec. 1919		Jan. 1921	
	R	H	R	H	R	H	R	H	R	H	R	H
Number of Samples	39	4	34	9	29	15	32	15	32	9	24	16
Average Bacterial Count in Thousands	418	83	124	168	210	162	160	28	24	6	42	43
Number Samples Count Exceeding 500,000	10	..	..	..	2	1	2	..	..	..	..	..
Percentage of Samples with Count Exceeding 500,000	26	..	..	..	7	7	6	..	..	..	..	..
Sanitary Grades: Percentage Milks												
90 and over	3	25	9	10	20	23	43	79	13	..	46	14
80 and over	30	50	39	20	60	62	87	100	48	30	88	86
70 and over	70	100	64	50	90	77	100	100	81	70	100	93
Below 70	30	..	36	50	10	23	..	..	19	30	..	7

R = Raw Milk. H = Heated Milk (usually marked *Pasteurized*).

*Figures of Sanitary Grades are of May, 1916, instead of July, 1916.

It will be noted that the number of heated milks has steadily increased. While these milks have shown a lower average bacterial count, the raw milks have shown slightly higher sanitary grades. This would seem to indicate that the pasteurized milks had possibly not been so carefully produced, but that the heat treatment had rendered them safer bacterially than the raw milks.

Prosecutions

The number of prosecutions for violations of the milk ordinance has been reduced in the past few years. Apparently the milk dealers realize that the board of health is determined to maintain standards and also that the publicity given to a case before a justice of the peace is bad for business. In 1915, there were 11 cases carried before a justice of the peace, 4 on account of visible dirt in the milk, 6 for low butter fat and 1 for selling skimmed milk unmarked. In 1917, only 5 cases were prosecuted, and in 1920 only 3 cases were carried before a justice of the peace. A great majority of the prosecutions have been on the grounds of low butter fat, low solids, or visible dirt, and not for bacterial content.

In these prosecutions before a justice of the peace, it is of interest to note that the township has seldom lost a case. The 1915 report, for instance, shows only one case discharged out of 11 brought, and we do not find proof of other discharges. Our examination revealed that cases are prosecuted only after thorough knowledge of the facts and with adequate testimony. Bringing cases to prosecution on insufficient grounds is a destructive procedure, since it lowers the prosecutor in the eyes of the law. Prosecution, after all, is only a means to an end, and not an end in itself, and should be used advisedly.

It has been necessary to proceed very carefully in prosecuting violations of the butter-fat and milk-solids standard, involving skimming and the production of "standardized" milk. The township ordinance specifies not less than 3.25 per cent butter fat, not less than 8.25 per cent of other solids—not butter fats—and not less than 12 per cent total solids. As the act of June 2, 1915, in effect reduces the butter-fat standard to 3.0 per cent, it is not safe to prosecute unless the content is safely under 3.25 per cent. It has been difficult to prosecute large dealers for skimming unless the evidence has been overwhelming, but much easier to prosecute small dealers because raw milk can be secured directly from the herd to be used as evidence. Many cases of skimming are described by the chemist as technical cases, since the butter-fat and milk solids are above the minimum values set by ordinance. Sometimes, however, the total solids have been found to be below 12 per cent; the board of health has been conducting special tests on such samples during the past year.

Laboratory Examination

The laboratory examination of the milk samples as made by the township chemist is very complete. It comprises a bacterial count, B. Coli presumptive test, an anerobic spore test, a fermentation or curd test, and a microscopic test, besides the physical tests of specific gravity, butter-fat, total solids, presence of dirt, color, and preservatives. A distinctly unique method of sanitary grading is used by the chemist from the results of the first five of these tests, together with the test for dirt. The sanitary grade has been described by the chemist as the sum of grades assigned after the examination of the sample for the visible dirt, bacterial count, pollution from cow manure, pollution by human waste, changes during storage, and infection from inflamed udders. The tests shed light upon the conditions under which the milk was produced and handled. It has been possible by reason of such complete information to check up on the milk production to a remarkable degree from the laboratory. The dealers have been sent warning notices from the laboratory when results were unsatisfactory.

Supplementing the laboratory tests, the health officer inspects the dairies within the township about once a month, and occasionally he is assisted by a state inspector. The many duties incumbent on the health officer do not permit of very extensive inspection. The dairies are not graded according to a score-card method, and the township records do not indicate the condition of these dairies.

Typhoid-Fever Outbreak of 1921

Particular attention of the board of health, and of the entire township, in fact, has been focused on the regulations concerning the milk supply by an outbreak of typhoid fever which occurred during the past summer. Some 59 cases were involved, 22 of which were in Lower Merion Township and the remainder in Haverford Township. The outbreak was investigated very carefully by the chemist for the board, with some help from the state department of health, and an effort has been made to search out the particular source of infection. The full report of the investigation has not yet been made available, but the fact was established that the infection was initially spread through a certain milk supply, while a group of later cases, all in Haverford Township were connected with another milk supply.[1]

The attention of the township board of health was called to several cases of typhoid fever which were reported late in July. Investigation showed that the patients all used a certain milk, the sale of which was ordered discontinued on August 2. The milk was obtained from two dairy farms outside of Lower Merion Township, and was sold as a raw milk without heat treatment.

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[1] The report of the chemist, made subsequently to the submission of this survey report, indicates the probable mode of contamination as dirty milk bottles infected by flies from unprotected privy vaults.

Requirements of a Milk Supply

The consumer of milk should be interested primarily in securing milk that is as free as possible from danger of spreading infection, and secondarily in having clean milk and milk with proper butter-fat content. Of course it is true that most consumers look at the matter the other way, and are most concerned with the butter-fat content since it affects the economic value of the milk and thus presses on the pocket nerve. In many cases, too, the quality of the milk is judged by the presence or absence of visible dirt. Unfortunately, the absence of visible dirt is not indicative also of the absence of harmful bacterial contamination. The public is perhaps better informed today than formerly of the relative value of the various regulations concerning the milk supply, but it is necessary for the board of health to establish adequate protective measures in spite of possible misconception on the part of the public of the value of such measures.

Our inspection of the work performed by the board of health in controlling the milk supply was begun just before the typhoid fever outbreak in the summer of 1921. We were impressed in the beginning with the fact that more emphasis was being put on butter-fat content and cleanliness of the milk than on its bacterial content, and suggested that the control work should be expanded to provide greater protection from a health standpoint. It was our intention to buttress this position by the sad experiences of other communities. Later events have made that approach unnecessary since the township has unfortunately acquired its own experience.

More Adequate Health Protection

The milk-supply problem has already been given much thought in the township. In September, 1921, representatives from the boards of health of the several townships along the Main Line held a meeting at which a representative of the state department of health outlined plans for safeguarding the purity of the milk supplies. These plans included the adoption of more comprehensive and stringent milk regulations by the several townships interested, with co-operative effort at enforcement comprising field inspection and laboratory examination. The regulations proposed were practically those embodied in the model milk ordinance which has been circulated by the state department of health.

Several special meetings have been held by the township board of health to consider the adoption of additional milk regulations. The milk dealers were present at two of these meetings and the producers were present at a third meeting. Progress has been made to the point that at the February, 1922, meeting of the board of health additional regulations were tentatively adopted and will be forwarded for action by the board of township commissioners at an early meeting.

The proposed regulations provide for the classification of milk into two classes: inspected raw milk, including the certified grade, and pasteurized milk. All raw milk must come from tuberculin-tested cows and be produced and handled by persons free from communicable disease (including carrier infection) under certain specified conditions. The enforcement of these measures will require extensive field inspection of the producing farms and dealers' plants, including control of pasteurizing and bottling arrangements. It is proposed to employ a competent milk inspector. Laboratory examinations will be continued to check the results.

Present indications point to the cooperation of some of the other Main Line municipalities with the Lower Merion Township board of health in adopting and enforcing the proposed regulations. Most certainly the problem is the same for each municipality, and by cooperation the cost to each municipality can be reduced.[2]

The success of the proposed regulation will depend upon the effectiveness of the field inspection and the laboratory examinations. Laboratory examinations in the past have been very carefully and expertly conducted. In view of the greater emphasis to be placed upon field inspection, the laboratory tests can probably be reduced in scope, thus rendering it possible to make more frequent tests for the same expenditure of money. It is important that the field inspection should be conducted by a person who is thoroughly familiar with milk production and who understands where emphasis should properly be placed in the interest of protecting the public health without being unduly meticulous about unimportant details. The right kind of milk inspector will probably be able to secure the fullest cooperation of the producers and dealers, to the advantage of all concerned.

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[2] Since this report was submitted, joint control of the milk supply has been entered into by Lower Merion Township, Haverford Township, and the Borough of Narberth, and uniform regulations have been adopted. A graduate veterinarian, experienced in milk production, has been employed on a full-time basis as milk-control officer.

It will be a distinct advantage to the user of milk when uniform grading of milk is adopted under the proposed regulations. Gradings under which milk is now sold have apparently been developed by the dealers solely for their commercial value, and there is no basis of relative comparison between the products of the different dealers. These gradings are based primarily upon butter-fat content, and doubtless some system may be desirable whereby the pasteurized milk can be marked according to its richness.

Pasteurization is not an absolute protection unless it is adequately controlled. The case is analogous to the disinfection of public water supplies, which must be scientifically controlled and operated to be effective, and which may fail to protect when vigilance wanes. Any such process is, of course, subject to human limitations. In spite of the absence of 100 per cent effectiveness, disinfection of water supplies has been accepted as a necessary public-health measure, and is even used to a large extent to supplement other safeguards thrown around water supplies. Pasteurization of milk supplies is also coming to be widely accepted as a necessary public-health measure to assure the purity of a milk supply just prior to its distribution. With pasteurization properly conducted, other measures for the safeguarding of the milk supplies are relatively less important than without effective pasteurization. Emphasis should therefore be placed on the conduct of the pasteurizing process. In the control of milk that will be sold as raw milk, under the proposed regulations, of course there must be the strictest surveillance of the manner in which the milk is produced.

CONTROL OF WATER SUPPLIES

The piped water supply of the township is furnished by the Springfield Consolidated Water Company. There are only a few private sources of water supply in the built-up sections of the township. On account of the lack of a public supply, private wells are in use exclusively at West Manayunk and Ashland Heights. Their use constitutes a dangerous practice, in view of the absence of sewers and the use of privies and cesspools. A few samples of water have been collected for analysis from these wells in the past, but samples are not systematically examined. It is recommended that all well waters be examined periodically.

Six examinations per month are made of samples of water from the Springfield supply collected at varying points in the distribution system. The results have been generally satisfactory during the past few years. The state department of health exercises supervision of the company's operation and obtains routine reports of its bacteriological examinations. It is advisable, however, that the township should keep a current check upon the quality of the supply. The fact that it has done so and has communicated with the company when the results were not considered satisfactory, has apparently been a source of contention with the company, or at least its replies to the township notices would seem to indicate this. Sometimes the results of the township's tests and of the company's tests do not agree. In part this is due to the fact that the township tests are not as complete as they should be. It is recommended that these tests be conducted in accordance with the standard methods approved by the American Public Health Association for confirming the presence of the B. Coli group. It is also recommended that examinations of the water supply be made at least weekly; it will then not be necessary to collect samples at so many points each time as in the present monthly examinations.

While water-supply conditions now are very favorable, there was a time about 10 years ago when this was not true. Credit for the improvement is due to the energetic efforts of the board of health. In the fall of 1910, an outbreak with over 30 cases of typhoid fever was checked promplty when the water was boiled. By the persistent effort of the board of health the water company's facilities have been gradually improved. The supply is obtained from two creeks which are polluted by sewage, but the water is filtered and disinfected. There is still other improvement contemplated in treatment facilities which should add safety to the existing conditions.

CONTROL OF FOOD AND FOOD ESTABLISHMENTS

From time to time, the purity of food supplies has been the subject of action by the board of health, although this activity has not been greatly developed. One instance of activity was the investigation several years ago of the use of celery bleached with chemicals, resulting in the prohibition of its sale in the township.

The board of health has done some commendable work in the physical examination of employes in restaurants and boarding-houses. A state law requires such examination semi-annually. While there was opposition at first, the proprietors of the establishments are now very well satisfied with the protection which the examination affords them.

CONTROL OF NUISANCES

Reference was made earlier in this chapter to the investigation of nearly 300 specific complaints and abatement of many nuisances by the health officer in 1921. In the township office there is no record from which the seriousness of these complaints could be ascertained, or from which judgment could be passed on the manner in which they were handled. Opinions vary somewhat among citizens as to the effectiveness of the handling of the ordinary run of nuisances. While it was not possible for us to investigate any large number of such complaints, some of the more important ones were investigated. It must be recognized, of course, that the relative importance of the ordinary nuisance is frequently overemphasized by the citizen who does not understand relative values in public health work, particularly in the light of the amount of appropriation available, or in relation to the importance of time to the few employes engaged in public health activities. It is advisable from the standpoint of good policy that all complaints should receive fair consideration, and it is important that letters of complaint should be acknowledged promptly, even though only a form postal card may be used, unless an inspection is made immediately.

Need for Record of Nuisances

In the control of nuisances, our principal recommendation is that a complete record should be kept of all cases. This will involve additional work, which can be kept from becoming burdensome by the use of convenient record forms. We would suggest a card form to be filled out on receipt of the complaint, this card to carry notations as to all subsequent action. These cards can be most advantageously filed by geographical location, rather than by name of property-owner, tenant, or complainant, and can be kept in file drawers in two parts—a "live" file for cases under action and a "dead" file for reference to determine past experiences with the same premises. For convenience, certain groups of cases might be kept separately, such as piggeries and privy-vault cases. Systematic records will supply useful information for the board of health and are absolutely necessary as soon as other persons besides the health officer are handling nuisance cases.

Pig Keeping

The most troublesome type of nuisance dealt with has been due to pig keeping. This practice has now been virtually eliminated in all built-up sections of the township, including Ashland Heights. The greatest source of trouble recently has been due to the feeding of pigs in rather large numbers with garbage brought out from the city of Philadelphia. This has occurred chiefly at points along Haverford Road near the city. In the summer of 1921 there were some six large piggeries in existence, including two where township garbage was disposed of, and three small piggeries, containing in all some 1,500 pigs. Several years ago the number of piggeries and pigs was very much higher.

In the last few years there have been many complaints about the piggeries along Haverford Road. The correspondence files show that on May 13, 1921, a complaint was made to the board of health that eight piggeries along Haverford Road were in bad condition. The reply from the health officer stated that three of these eight piggeries were in Delaware County, outside the jurisdiction of the township board of health, while the others were not conducted contrary to law, inasmuch as pig manure was removed daily, put on the fields and plowed under. It was also stated that the pig-pens had been rebuilt recently. Conditions at the piggeries were not found to be so favorable at the time of our inspection last June. While the pens had been rebuilt and raised above the ground, they were only fairly clean, while the pig manure and uneaten garbage were piled on a field nearby where flies were breeding prodigiously. No satisfactory method of drainage was provided. The odor from the piggeries, however, was not discernible at any considerable distance.

The existing township regulations governing piggeries are included in an ordinance approved September 22, 1915. Under the terms of this ordinance, permission of the board of health is necessary for the building and maintenance of pig-pens, which must be 100 feet from a steam, a street, or inhabited house, and the manure must be removed at least once each day and treated to prevent it from becoming a nuisance. More stringent regulations were approved by the board of health in 1918, but did not receive the approval of the board of township commissioners. The subject, however, is covered rather fully in regulations of the advisory council of the state department of health which were adopted on May 17, 1920. In fact, the township board of health quoted these regulations in letters sent to operators of piggeries under date of September 19, 1921. The letters were sent as the opening gun in a campaign to rid the township of the commercial piggery. This is altogether a wise policy. Until such time as the piggeries can be eliminated, however, it is recommended that the board of health issue regular yearly permits for the keeping of pigs, revocable at any time within the year if conditions are unsatisfactory.

In the attempt to regulate piggeries more closely, or to eliminate them entirely, it should be borne in mind that the garbage from the township itself is fed to pigs at two farms within the township, under contract arrangement. The operation of these more or less "official" piggeries should be closely supervised and the same rules enforced as are made applicable to the other piggeries. In fact, the opportunity is presented to make the township contractors' piggeries serve as an example to the others of what can be accomplished.

Inspections were made of Smith's and Claypole's piggeries (the township garbage piggeries) last July, and they were found in fairly good condition. The two piggeries are operated on somewhat different lines; at Smith's the pigs are confined in small pens and run at large very little, while at Claypole's the pigs run at large almost entirely. With the pigs confined, it is very important to clean the pens frequently; with the pigs running at large, the feeding place is continuously changed and natural agencies are relied upon for cleaning purposes. Smith's pens are well constructed, but in July they were not being cleaned with sufficient frequency, and the refuse was being dumped in a pile nearby where flies were breeding profusely. Very few pens were in use at Claypole's piggery and these were not so well constructed as the pens at Smith's. Provision should be made at both places for more efficient disposal of refuse to eliminate extensive fly breeding and strong odors. The refuse might be stored in pits on which a protective covering of dirt could be maintained. Otherwise it should be spread directly upon the fields and plowed under.

Sources of Fly Breeding

During the last few years some attempt has been made to reduce the prevalence of the house fly. In 1921 these efforts were effectively co-ordinated through a fly campaign that was conducted by a civic agency, The Suburban Association. A special inspector was employed who sought out sources of fly breeding and vast quantities of literature were also distributed. Many sources of fly breeding were referred to the board of health and were cleaned up through its efforts. Other accumulations of filth were removed as a result of the visit of the inspector from the civic agency. Altogether much good was accomplished and it was shown that by vigorous attack upon the sources of fly breeding the fly population could be considerably reduced.

In view of the recognized position of the fly as a carrier of disease, and because of the existence of many privy wells in the township, it is recommended that the township board of health should carry on a campaign each summer to control fly breeding, as a part of its public-health program, and that it should lend active cooperation to civic agencies that are doing such work. The state department of health is devoting considerable attention to fly prevention and can doubtless assist the township materially. In fact, the files now contain detailed plans for a season's campaign furnished by the state department.

Privy Wells and Cesspools

Due to the lack of sewers in Gladwyne, Ashland Heights, and West Manayunk, there are many privy wells and cesspools in use. It has been the practice of the health officer, when other duties are not pressing, to inspect these facilities and to insure that they are kept from overflowing. This work has not been systematic, and inspections have not been sufficiently frequent. During the 1921 fly campaign a number of overflowing privy wells located in Ashland Heights were ordered cleaned by the board of health. At the end of that campaign a list of all privy wells that were located was sent to the board of health. It showed some 98 privy wells in and near Gladwyne and some 305 in and near Ashland Heights and West Manayunk.

It is recommended that more thorough control be exercised over privy wells and cesspools. It is suggested that permits be issued for all new construction, that the township specify the types of construction permissible, and that gradually these specifications be applied to all existing privies. Privies should have water-tight vaults which are fly proof. Perhaps the type best adaptable is the concrete vault privy developed by the U. S. Public Health Service. Cesspools should be permitted only when there is no danger of polluting local sources of water supply.

To insure systematic inspection of the privies and cesspools, it is suggested that each privy or cesspool be listed on a specially prepared card form to be filed geographically in an index file. Each inspection should be recorded with date and conditions found. Reinspection at a given time can be assured by filing the cards in a date file.

Permits are now required when privy vaults are cleaned, but there is no supervision of the night-soil cleaners. It is suggested that this procedure be reversed, and that close supervision be exercised over the manner in which night soil is disposed of and that all cleaners be licensed each year. If that is done it will be unnecessary to issue a permit to the property-owner or tenant, which is now a source of inconvenience because of the inaccessibility of the town hall to many of the premises affected.

Mosquito Breeding

Mosquitoes have been a source of annoyance to the residents of several sections of the township at certain times. The board of health has been interested in this problem to some extent, but has not undertaken any extensive work to control mosquito breeding. Some control work has been performed by private endeavor. In fact most of the work needed is probably on privately owned lands and not on the public highways nor on the small tracts of land owned by the township. It remains, however, for the board of health to require the private owner to perform the necessary control work. Time has not permitted a survey of this problem, but it would appear that each summer a certain amount of attention to this subject might be given by the health officer, if his other duties are lightened by enlarging the personnel engaged in public-health activities.

HOUSING

There have been several studies made of housing conditions in the Main Line district, including Lower Merion Township, that have been rather startling in their findings. The latest report was one prepared in 1919 by the Philadelphia Housing Association for the Main Line Citizens' Association. This report dealt specifically with conditions that existed on certain streets in Ardmore and Bryn Mawr. These conditions were not so bad, it should be stated, as those in some places outside Lower Merion Township. The report showed that there was land over-crowding, water in cellars, obstructed toilets, and accumulation of ashes and rubbish.

Since the date of that report, the township has enacted an ordinance setting forth the sanitary requirements for lodging and tenement houses and making it the duty of the health officer to investigate such establishments. For the purposes of the ordinance, a lodging, rooming, or boarding-house is described as a house where at least five persons are furnished with accommodations. This definition probably reduces the application of the regulations very considerably, since there are probably not many houses in the township with as many as five roomers or lodgers.

Outside this rather narrow application of the housing ordinance, the township board of health does not have jurisdiction by law over the manner of occupancy of dwelling houses, unless a nuisance exists or there is a menace to the health of others. Such control was proposed in a state housing law that failed of passage in the last legislature. Following the 1919 housing investigation, the health officer inspected many of the premises involved and about thirty orders were issued for the repair of plumbing fixtures. More recently, means have been found to drain some of the wet cellars. These efforts have been of much benefit. If it is possible, the board should manage to have the more or less unsatisfactory sections of the township inspected several times a year and any insanitary conditions corrected. These inspections would also give information as to the operation of lodging and tenement houses, which is not fully known now.

PLUMBING INSPECTION

Under the provisions of the act of April 14, 1915, the board of health is empowered "to prescribe rules for the construction and maintenance of house drains, wash pipes, soil pipes, and cesspools." The plumbing regulations now in effect are included in an ordinance approved December 28, 1920. They provide for the registration of plumbers and the filing of plans of proposed work, and set forth certain specifications for construction. The regulations are enforced by a plumbing inspector employed by the board of health. This inspector gives only part-time service to the board of health, combining it with his regular duties as superintendent of health and drainage. So far as we have examined the plumbing inspection work, it was found to be very well performed.

For some years prior to December 28, 1920, the enforcement of the plumbing regulations was under the direction of the township commissioners instead of the board of health. Actually there would not seem to be very much reason why the board of health should be the township agency concerned with this work because of the very remote connection with the public health. Plumbing regulations today serve the end chiefly of guaranteeing proper and tight construction. Logically, therefore, plumbing codes will doubtless eventually be included as a part of building codes. Although this change may take place, it will not necessarily alter the present duty of boards of health to inspect drains and plumbing facilities if they constitute a nuisance or a menace to health.

OTHER HEALTH AGENCIES

To complete the picture of public health work in the township, mention should be made of certain other public and private agencies. Certain work in the control of tuberculosis—the examination of patients and the committing to sanatoria—is performed by a local practising physician in his capacity as agent for the state department of health. A tuberculosis clinic is held each week at the Bryn Mawr Hospital. A "well-baby clinic" is also conducted through private endeavor.

Particular mention should be made of the nursing service conducted by the Main Line Citizens' Association. This work was originally begun with one nurse, whose attention was confined to certain parts of Ardmore and Bryn Mawr, but the work has been so beneficial that two other nurses have been added. These nurses serve a useful purpose in cases of sickness where a full-time private nurse cannot be employed. Their influence is also felt in improving general health conditions. The nursing service is only partially supported by the fees received, and the patient makes no payment whatever if his financial circumstances do not permit. The experience of this nursing service would indicate that public-health nurses in the employ of the township could accomplish a very useful service.

CONCLUSIONS

There are many reasons why the township should feel proud of the accomplishments of its board of health. Organized only 14 years ago, it has done much with meagre appropriations to improve the general health of the community. The record of accomplishments has not escaped the notice of the state department of health, which made the following statement in a letter to the president of the board under date of February 21, 1921:

> The efficiency and economy of your work is a model for other communities in the state.

> The fact that you have no deaths from diphtheria is convincing evidence of the high type of your doctors. You had 22 cases—one death would have been legitimate according to the present state rate, which is about one-half what it was a year ago.
>
> The low incidence of typhoid fever is indicative of an adequate sanitary control.

We have been much impressed with the effectiveness of the work of the Lower Merion Township board of health as compared with the average board of health in a small municipality. However, we feel that the time has now arrived when its work should be expanded extensively. Urban conditions have largely replaced rural conditions in the township, and the board of health must keep pace with the greater demands for service.

Although in the past the board of health has carried out fully the provisions of law relating to the *control* of communicable diseases, the board has not done so much in the direction of the *prevention* of such diseases. It is desirable that the board should employ public-health nurses to carry the principles of disease-prevention into the homes to reduce contact infections, and through cooperation with the school board to carry this service into the schools so as to exercise positive control over the spread of infection among children of school age.

It is important that the board of health should throw more secure protection about the milk supplies, as is now proposed.[3] Efforts in the past have served a most useful end in improving the cleanliness of the milk and in controlling its physical constituents, but did not prevent the serious typhoid outbreak of last summer. Milk should be either of two kinds: fully protected raw milk or pasteurized milk. Proper pasteurization will require close supervision by the board of health.

Closer supervision should be exercised over possible sources of nuisance—piggeries, privies, cesspools, manure piles, etc. Particularly should privies be better regulated, and water-tight and fly-tight construction should be specified.

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[3] A highly commendable plan has been put into effect, since the submission of this report, in co-operation with Haverford Township and the Borough of Narberth. The regulations mark a decided step forward and should be helpful to other communities in the state. The effectiveness of this plan would be greatly enhanced if other nearby governmental units joined the milk-control district.

It is imperative that steps should be taken now to install a system of office records that can be expanded as necessity directs. Card-index records are especially needed for cases of communicable disease, privy vaults, and cesspools.

Expansion of the work of the board of health will require additional personnel. At some time in the future the board will probably find it desirable to appoint as health officer a person trained and experienced in public-health activities. Perhaps it would be preferable to select a person having a medical degree, since he would then be more qualified to determine doubtful diagnoses and would be in a better position to secure the highest type of cooperation from the medical practitioners. With a trained public-health administrator on the job continuously, it would be unnecessary for the members of the board of health to give so much time to the work; particularly it would relieve the president of the board of an undue amount of work for the township for which he is not compensated. The public-health work would also often be expedited, because many decisions could be made at the township office without waiting on the board of health, or upon its president, for instructions.

These observations on the probable employment of a trained public-health worker as health officer, are not made as adverse criticism of the work of the present health officer, which has been very commendable, but rather as forecasting the need for rounding out the qualifications of the personnel engaged in public health work as the service is expanded into new fields. The present health officer would make a most valuable assistant to any professionally trained public-health worker who might be appointed health officer. It is our opinion, considering the limited opportunities of the present health officer for training in public-health matters, that he has performed his work with an effectiveness far exceeding the average. There would always be an important place for a man of his abilities in the township health organization, particularly in the field of inspection. At present his duties are so numerous that he cannot fully discharge all of them, and there is an immediate necessity for relieving him of some duties so that he can perform others more effectively. This might be accomplished immediately by turning over much of the communicable-disease-control work to a public-health nurse. We believe that the benefits derived from the services of such a person would result eventually in the building up of a larger corps of nurses.

We are not unaware that many of these suggested improvements in the public-health service may have been in the minds of the board of health but could not be consummated because of inadequate revenue. Possibly this condition may show improvement now in view of increased real estate assessments for the new triennial period. Most certainly the health of the community deserves more consideration than is afforded by an expenditure of 33 1/3 cents per capita, the cost of the board of health work in 1921. An allowance of three times this figure is none too much and should be provided if the increased program of activity demands it. The board of commissioners seems to be sympathetic to larger appropriations for health work and has approved additional expenditures for 1922, to permit the enforcement of additional milk regulations.

It is desirable that the board of health should in every way possible enlist the support of individuals and organizations in the promotion of public-health work. It would be valuable to throw the board meetings open to the public and to advertise that fact, reserving the right, of course, to go into executive session to consider delicate matters.

CHAPTER VI

POLICE

The police protection of Lower Merion Township is by no means the least difficult of the township commissioners' tasks. The township has an area of 26 square miles. Traversing it are 144 miles of public road, including 13 miles of the most heavily traveled main arteries of the commonwealth. In the township is property valued conservatively by the assessors at $96,000,000, of which doubtless far over three-quarters might be stolen or burned. Within the township dwell approximately 25,000 persons, of all ranks of wealth and poverty, of alien as well as native stock, of widely varying moral and social standards, housed in surroundings varying from palatial mansions to sections reminiscent of slums. Many of the houses with the most valuable contents are closed for months at a time.

To police this area and protect these people and their property, is a task that catches the imagination of the civic patriot. His desire is perfect police protection, befitting the "richest township in America."

What There Is To Work With

The Lower Merion Township police force has consisted, in fact, of:

1 chief, with the rank of captain
3 sergeants
32 patrolmen (including house men and traffic men)
1 turnkey

The township budget of 1922 has provided for the addition of 14 more patrolmen. The statements in this chapter regarding size and distribution of the force apply to the force as constituted before this increase, except as otherwise specifically noted.

In addition, there are two patrolmen paid for night duty by the Merion Civic Association but under the jurisdiction of the township force. These men report to the chief and are subject in every way to his orders; but in addition they report to the Merion Civic Association,[1] not only on conditions in their territory but also on some of the activities, in Merion, of the township policemen. In other words, there is not only divided authority, but also all the necessary conditions for troublesome and irritating internal espionage.

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[1] See Figure VI-1.

The watchman on the inter-county bridge at Manayunk, and a watchman employed by certain residents of Bryn Mawr, are also commissioned police officers of the township, without pay from the township.

FIGURE VI-1. FORM OF REPORT TO MERION CIVIC ASSOCIATION

THE MERION CIVIC ASSOCIATION
PROTECTIVE SERVICE

DAILY REPORT OF SPECIAL OFFICER

Township Police Officers on Duty ....
Remarks ....
....
....
....
Date Special Officer

The force is distributed according to a modified three-platoon system, each platoon nominally consisting of 10 men in charge of a sergeant. The shifts are: 8 A. M. to 4 P. M.; 4 P. M. to 12 midnight; 12 midnight to 8 A. M. Actually, the force is on duty approximately as follows:

"Day shift"	
8 A. M.-4 P. M.	1 sergeant 9 patrolmen (two mounted) 1 houseman 1 traffic man
8 A. M.-6 P. M.	Chief 1 patrolman 1 turnkey
"P. M. shift"	
4 P. M.-12 midnight	1 sergeant 7 patrolmen (1 mounted) 2 housemen
8 P. M.-4 A. M.	3 patrolmen (1 mounted)
"A. M. shift"	
12 midnight-8 A. M.	1 sergeant 7 patrolmen 1 houseman

The "housemen" not only man the station-house and attend the patrol-box switchboard, but drive the chief's or sergeant's car in answering emergency calls. For this reason, two are necessary to a shift. The "P. M. shift" is so manned; the day shift has the equivalent (one houseman and the turnkey); the "A. M. shift" is short-handed.

Shifts are changed on an average of every 15 days, on the chief's order. This avoids hardship to any one group of patrolmen.

The only reserve force in Lower Merion Township consists of the chief, the sergeant on duty, and the housemen. On the other hand, the police problem of the township seems to require little in the way of a reserve. Every member of the department is constantly subject to call, and frequently is called: (1) especially to fill gaps in the service due to illness, vacations, sick leave, or injury; (2) as special details for extra protection at parades, celebrations, races, social functions, weddings, funerals, and the like; and (3) for plainclothes work. The present arrangement was put into effect after unsatisfactory experiments with a 10-hour shift (see chief's annual report, 1919), and a system of frequent short shifts (see chief's monthly report, April 29, 1920). The present system is the most satisfactory the department has yet devised; it gives good service to the community; and there seems to be no reason for advocating a change.

PATROL SERVICE

There are nine regular beats or patrol posts. Most of them comprise too much territory for a man to patrol completely, and he therefore patrols part of the territory and pays occasional visits to strategic points in the rest.

A sample of the actual working of the patrol system is portrayed in the following table (VI-3) and chart (VI-4). The table shows the area commanded by each patrol box, the frequency with which, on a particular random day, the box was "pulled" (and therefore the frequency of assured patrol of that immediate vicinity), and the maximum period over which the box was not pulled (and patrol of the immediate vicinity consequently not assured). The chart shows graphically the move-

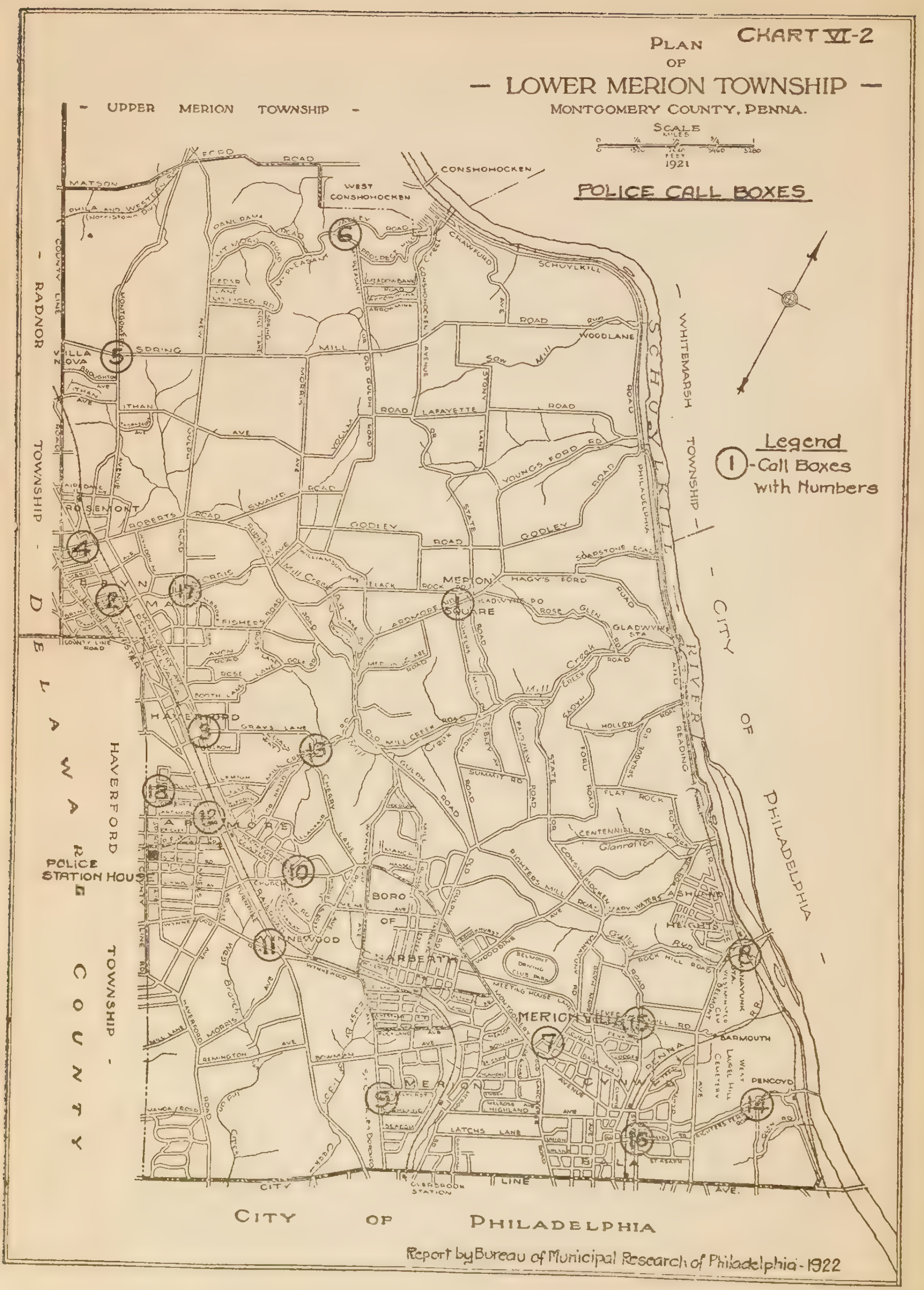


CHART VI-2

PLAN OF — LOWER MERION TOWNSHIP —

MONTGOMERY COUNTY, PENNA.

1921

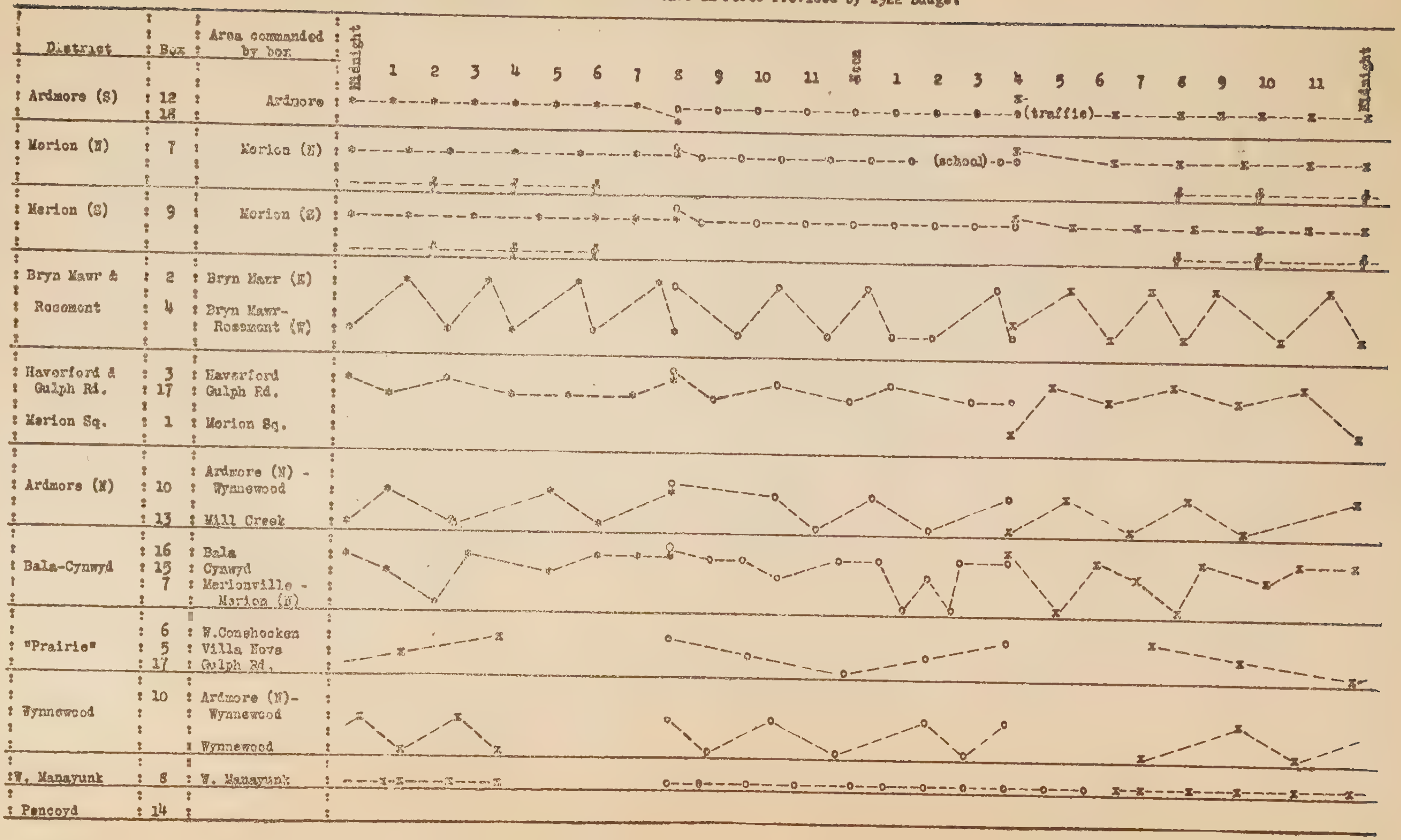
POLICE CALL BOXES

Report by Bureau of Municipal Research of Philadelphia - 1922

Chart VI-4

HOW BEATS ARE PATROLLED.

Sample Day - Prior to Increase in Force Provided by 1922 Budget



ments of the patrolmen with respect to the patrol boxes as shown by one day's reports.

TABLE VI-3

FREQUENCY OF POLICE PATROL
(Sample Day)

LOWER MERION TOWNSHIP

Prior to Increase in Force Provided by 1922 Budget

Box	Area Commanded by Box	Box Pulled in 24-hour Day	Longest Interval Between Pulls (i. e., Between Assured Patrol Protection)
1	Merion Square	Twice	16 hours
2	Bryn Mawr (E)	2-hour intervals	2 "
3	Haverford	8 times	3 "
4	Bryn Mawr-Rosemont (W)	2-hour intervals	2 "
5	Villa Nova	4 times	8 "
6	W. Conshohocken	4 "	8 "
7	Merionville-Merion (N)	26 "	1 "
8	W. Manayunk	21 "	4 "
9	Merion (S)	20 "	1½ "
10	Ardmore (N)-Wynnewood	14 "	1½ "
11	Wynnewood	7 "	5 "
12	Ardmore	22 "	2 "
13	Mill Creek	8 "	5 "
14	Pencoyd	Not pulled	..
15	Cynwyd	6 times	6 "
16	Bala	15 "	3 "
17	Gulph Road	11 "	3 "
18	Ardmore (S)	Not pulled	..

NOTE: The use of place names in this chapter follows the practice of the police department. The names do not refer to areas with definite boundaries, but to general areas as colloquially termed. See chart VI-2, showing the several communities and the specific location of the boxes.

Note that:

1. The central section of Ardmore was deprived of an officer for two hours in order to man the traffic post.

2. Wynnewood had no patrol service, 4-8 A. M. and 4-8 P. M.

3. West Manayunk was without patrol five hours (4-8 A. M. and 6-7 P. M.), and it was necessary for the two men who pa-

trolled this post to work 10-hour and 9-hour shifts respectively, in order to keep this dangerous section patrolled as much of the time as it was.

4. In South Ardmore, the patrolman was permitted to ring up each time from the box on Lancaster Avenue, whereas the box at Holland and Spring Avenues is in a section that ought to be regularly patrolled.

5. The "Prairie," the entire section of the township north of Rosemont and east to the river, was without patrol service twice for four hours at a time (4-8 A. M., 4-8 P. M.).

6. The geographical heart of the township, Merion Square, was patrolled only twice.

7. The corner of the township between West Laurel Hill Cemetery and the Philadelphia City Line (Pencoyd) evidently was not patrolled at all.

8. The situation at West Manayunk and Wynnewood should be contrasted with the record for Merion (boxes 7 and 9) where the boxes were pulled at intervals never greater than an hour or an hour and a half.

DISTRIBUTION OF ADDITIONAL PATROLMEN

The 14 additional policemen provided in the 1922 budget will be distributed as follows:

Ardmore (boxes 12, 18, new box)	2
Bryn Mawr (boxes 2, 4, new box)	2
Bala-Cynwyd (boxes 16, 15, 7)	3
Haverford and Gulph Road (boxes 3, 13)	1
Ardmore, north (boxes 10, 13)	1
West Manayunk (box 8)	1
Motorcycle men, to patrol Lancaster and Montgomery Avenues	3
Sidecar motorcycle man, attached to station-house	1
	14

In addition, three men will be assigned to the borough of Narberth in accordance with a special arrangement between that borough and Lower Merion Township for the joint policing of the territories by the township force.

COMMUNICATION

Communication with men on their beats is maintained through 18 patrol boxes through which the men ring in. The location of the boxes is shown on the map, chart VI-2. Installation of several new boxes is planned, in connection with the increase of force, including one in Bryn Mawr, near Merion Avenue and County Line, one near the Ardmore post office (box 12 then to be moved to Lancaster Avenue in the vicinity of Holland or Wyoming Avenue), one near Haverford Road and Kelly's Lane, and three in the borough of Narberth. The boxes are connected with a private telephone switchboard in the police station. Each patrolman on duty is required to call headquarters at fixed intervals. A slate is kept by the person in charge at headquarters, and each incoming call is recorded, with notes of special reports from the patrolmen. Special instructions occasionally are given from headquarters, or inquiries made, at the same time. There is also an automatic clock, designed to be connected with the switchboard and to register the time of each call received from each box, thus supplementing and checking the accuracy of the slate record. The clock is not used, however. The chief gives as a reason the difficulty of keeping it in repair, ordinary telephone "trouble men" being unequal to the task. It is recommended that the clock be put into service, with such preliminary repairs as may be necessary. Anything serious should be taken up with the makers. If the clock is worn out, it should be replaced. Negotiations for the current maintenance and repair of the system should be pressed with the district officials of the Bell Telephone Company. It seems improbable that there is no talent in the Philadelphia district capable of keeping this system in order; and the slate entries need the automatic check which the clock system is designed to afford.

Performance of duty is inspected by the sergeant in charge of the shift, or by the chief in case he desires to relieve a sergeant of the function. The department owns two Buick cars, and it is part of the duty of a sergeant to tour as much as possible of the township, as frequently as possible during a period of duty, inspecting the patrol posts and the general condition of the beats.

Patrolmen are not held responsible for reporting in writing the violations of ordinances noticed on their beats. Their reports of complaints, and of the condition of hydrants, lights, wires, etc., usually are put into writing, but it is not required. An order of September 4, 1920, requires written reports of the commencement of building operations.

It is recommended that written reports of each tour of duty be required of all members of the force, and that these be kept as outlined in the subsequent sections of this chapter dealing with records and reports.

How the Force Is Built Up

Appointments to the force are made by the township commissioners, on recommendation of the chief.

The chief has established three standards, to which an appointee must measure:

1. He must not drink;
2. He must not have been convicted of crime;
3. He must pass a physician's physical examination.

There are no competitive tests, no mental tests, and no physical tests except the examination referred to. Nor are there any established standards for this examination, except the chief's general instructions to the physician to whom he has arranged to have the applicant report. The examination fee is paid by the township.

On the other hand, the chief's recommendations for appointment are the result of careful selection.

Applications are numerous (indicating good reputation of the force). In addition to the applicants that come without solicitation, the chief and sergeants constantly are looking for desirable timber. When a possible candidate is observed, he is sounded out and invited to file an application in writing. Formerly an application blank was in use, but now an applicant merely is instructed to write the chief a letter setting forth his application in such terms and with such facts as he sees fit. Most of the letters on file are very brief and set forth practically no facts.[2]

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[2] A new application blank is being designed, March, 1922.

An applicant who seems at all likely is from then on under surveillance by the chief and sergeants. When next he has occasion to recommend an appointment, the chief is guided almost entirely by his impressions thus gained.

The chief reports occasional political pressure to bring about an appointment, which he has to withstand. Such pressure comes in part from township officials with election debts to pay, and in part from the negroes, many of whom have expressed the belief that their race should be "represented" on the force somewhat in proportion to the negro vote of the township. There are no negroes on the force, the chief stating that his previous experiences with negro policemen have been unfortunate.

TRAINING

The training of new policemen is assumed as a personal responsibility by the chief. The new man is first assigned to duty at the station-house, under the chief's immediate observation and care. He is instructed in the kinds of crime, the methods of operation of law-breakers, the township ordinances, the duties, rights, and deportment of a police officer, the making of arrests, and the prosecution of cases before justices of the peace. He attends the hearings of prisoners held at the station-house, and observes the method of prosecution used by the chief, the sergeants, and the more experienced patrolmen. He is then assigned first to an easy beat, sometimes in company with an older officer.

A police manual has not been used hitherto, but one is now being prepared.

PAY

The chief's salary is $2,500 per year. Each sergeant is paid $1,600 per year. The patrolmen are paid from $110 to $125 per month. The turnkey receives $100 per month.

From 1917 to 1920, a schedule of automatic increases for patrolmen was in force. This provided for an increase of five dollars a month after three years' continuous service, and a further increase of five dollars a month after two further years of continuous service. But war conditions made some relatively large blanket increases necessary, and in 1920 the ordinary scale of automatic increases was suspended. The result is chaotic, and one of the principal desires of the administration is to establish a new and equitable scale of pay and increases which the township budget can afford to meet.

In addition to salary, each man is furnished his uniform and equipment. Summer and winter uniforms are used, and, in general, one complete set of uniforms is renewed each year—summer and winter alternately.

Contracts for uniforms are let upon competitive bids, and there is no evidence of favoritism in the record of award of contracts.

Each man on the force is given one day off duty per month and ten days' annual vacation. In addition, he is given all the sick leave necessary, without pay deduction. No abuse of this privilege is apparent. The force works as usual on Sundays and holidays.

Length of Service

The length of service has varied considerably. The chief has served continuously for 11 years; the sergeants for 11, 15, and 16 years, respectively; the turnkey for 11 years.

Of the 32 patrolmen before the increase of force provided in the 1922 budget, 15 had been in service one year; but 10 of these were in positions which had not been in existence longer than that. Of the remaining 17 patrolmen, 14 had records of continuous service of 2 to 9 years, averaging 5 years. Three others had continuous service records of 12, 15, and 19 years, respectively.

Promotions

Promotions are made entirely upon the personal judgment of the chief, whose recommendations must be confirmed, however, by the police and fire committee and then by the board of township commissioners.

In practice, the officers of the force are not chosen from outside the ranks, though there is no regulation to prevent.

No records of personal police activity are kept. There are no so-called personal efficiency records, nor systematic records of absences, reprimands, commendations, or meritorious service. Offenses of flagrant dereliction become of record because the chief files written charges which lead to trial. Injuries, illness, or protracted absences become of record in the chief's monthly reports to the township commissioners. But for the most part the information about the quality of service of the men is centralized only in the memory of the chief.

There are no police medals, nor citations for merit. There is no annual inspection, exhibition, or police parade.

Removals

Removals from the force are determined by the police and fire committee of the township commissioners, sitting as a police trial board. Charges usually are preferred by the chief, though serious charges preferred by a citizen are heard in the same manner. The charges are preferred in writing, and the accused officer is entitled to see them and prepare his answer to be presented before the trial board.

Trial is usually conducted at the township offices rather than at the police station. There is no legal process to compel attendance of the witnesses either for the accused or for the prosecution, though the chief reports no difficulty in obtaining their attendance. The public is neither excluded nor invited. A hearing is conducted without formality. It may result in clearing the accused officer, or in a reprimand or fine, or in suspension or dismissal. A reprimand (which rarely is put in writing) may be administered by the chairman of the committee, the chief, or both. A dismissal is recommended by the committee to the board of township commissioners, which takes the official action. The notice of dismissal usually is put in writing and signed by the president or secretary of the board of commissioners. A record of the trial exists in the minutes of the police and fire committee. There is practically no appeal from the decision of the committee trial board; for, while technically the power of review lies with the board of township commissioners, there is small probability of the board's overruling its police and fire committee.

FIGURE VI-5. FORM OF CHIEF'S CHARGES

Sept. 23rd, 1912.

H. S. Stillwagon,
Chairman Police Comm.,
Lower Merion Commissioners.

Dear Sir:

I respectfully submit the following report, and prefer charges, of neglect of duty, and intoxication, in the case of Patrolman ———— ————, who failed to report for duty on Saturday evening, September 21st, 1912, at seven P. M. Investigation shows that he attended a base ball game at Narberth, on Saturday afternoon, that he drank liquor there, and I could not locate him until midnight. He was not in condition to go on duty. Will you order a hearing in this case.

Respectfully submitted,
JAS. I. DONAGHY,
Chief of Police.

(Special communication accompanying chief's monthly report, September 24, 1912.)

THE CHIEF

There is no municipal department in which quality of personnel plays so large a part as in the police department. No matter how many improvements there may be in organization, still

FIGURE VI-6. FORM OF DISMISSAL FROM FORCE

December 2, 1919.

Mr. ———— ————
Gladwyne, Pa.

Dear Sir:

At a special meeting of the Police and Fire Committee, held December 1st, 1919, at which time you were given a hearing on a certain charge preferred against you, after hearing the evidence in the case, upon due consideration, I have been directed to notify you that you have been discharged from the Police Force of Lower Merion Township for neglect of duty.

You will please turn over all property belonging to the Township to Captain James I. Donaghy, Chief of Police.

Respectfully yours,
GEO. C. ANDERSON,
Secretary

it is upon the personal ability, integrity, and devotion of the men that the effectiveness of the force depends. What is true of the men is still more true of the chief. What is true of the chief in a large department is still more true in a small department. His spirit pervades the department. His ability makes of his recruits whatever they become. The operation of the departmental machinery depends upon him. His standards of service become the department's standards of service. The phases of his profession for which he has special training or liking become the points of excellence of the department. The phases in which he personally is less versed become its points of weakness.

The chief in Lower Merion Township is literally subject to duty 24 hours a day, for his work in the field and station-house and the demands made on him at his home regularly take all his waking hours and break into his sleeping hours as well. He spends 8 to 10 hours a day in duties of administration and inspection at the station-house and throughout the township. The location and relocation of street lights, fire hydrants, and street signs add to his detail. He attends and supervises policing at all fires, irrespective of when they occur, and he performs or personally supervises the plainclothes and detective work of the department, which involves night and sometimes all-night duty.

THE CHIEF'S SUPERIOR

The immediate superior of the chief is the chairman of the police and fire committee. Through him and the committee, the chief reports monthly, in writing, to the board of township commissioners. His personal responsibility is to the board of township commissioners.

The extent to which the chief's immediate superior is personally active in the department varies, with the individual, from casual acquaintance to daily detailed activity. Apparently at no time, however, has the management of the department passed from the hands of the chief, nor been interfered with seriously by the personal participation of the chief's superior. There is on record one instance, within the past four years, when in the chief's illness the chairman of the police and fire committee wrote the chief that he had directed a certain sergeant to serve as acting chief, and requested the chief to issue orders accordingly. One would ordinarily expect such a communication to be the other way around.

POLITICAL ACTIVITY

Political activity of members of the force is not prohibited by law, but does not seem to exist in fact.

THE POLICE FUNCTIONS

The police functions of the township are as follows, in their approximate order of importance:

1. Traffic regulation.
2. Apprehension of persons committing crimes.
3. Enforcement of township ordinances.
4. General assistance to citizens and visitors, including directing strangers, aiding persons sick or injured in public places, seeking lost persons or property, and arbitrating countless petty disagreements and difficulties of which complaints are made.
5. Assistance at fires.
6. Enforcement of liquor laws and suppression of prostitution (from which the township seems remarkably free).

Certain special services are performed by the department, including the noting and reporting of bad hydrants, paving defects, broken street signs, defective wires, street-light outages, and the more offensive sanitary nuisances. For the benefit of the department of building inspection, all building operations are reported.

Cooperation between the Lower Merion police and the Philadelphia police appears to be excellent on both sides. Satisfactory cooperation seems to exist between the Lower Merion force and the police in other neighboring jurisdictions, such as Haverford Township, though occasional petty jealousies and minor friction are apparent. The large estates almost all employ private watchmen, who cooperate well with the township police. The state police rarely come into the township, nor is there any occasion for their coming.

CRIME

An analysis of the township's crime record would be made best from a comprehensive diary of the complaints received, the scores of daily petty differences and difficulties first having been deducted. No adequate complaint record exists, however. Only the most serious complaints are recorded. These are listed by the chief in his monthly report, and a summary of them affords a good picture of the serious crime in the township. Such a list, from February, 1920, through April, 1921, follows:

February 16, 1920. Department served notice on 400 residents to remove ice and snow from sidewalks, and requested 83 to appear for hearing.

March 3. Twelve bottles of liquor stolen from cellar, Montgomery Avenue, Merion.

March 14. Two suits and overcoat stolen, Montgomery Inn. E. C. ——— arrested.

March 27. Gold watch and diamond ring stolen from ground-floor room, Bryn Mawr College.

April 3. Platinum watch, two pearl pins, and clothing stolen from residence, Montgomery and Rosemont Avenues.

April 9. House entered by sneak-thief, Morris Avenue, Bryn Mawr. Gold open-face watch, ladies' gold hunting-case watch, ladies' brown suit, taken.

April 17. House entered, Linden Lane, Merion. Clothing and silver packed for removal and $20 cash taken.

April 19. Auto truck struck man on sidewalk. Man sent to hospital, skull fractured. Driver committed to Norristown jail for trial. Was trying to avoid striking another man.

April 25. Ford car, driver intoxicated, ran down man and woman on Montgomery Avenue near Woodbine. Man seriously injured and sent to Bryn Mawr Hospital. Driver arrested, Edgwood Road, Ardmore, and held to await results of injuries.

Touring car lost, 121 Edge Hill Road, Bala. Recovered in Baltimore. Thieves, negroes, not arrested.

May 2. Negro (thief suspect) jumped from P. R. R. freight train at Merion station and broke leg. Taken to hospital and held for hearing after recovery from injury.

May 3. Ford sedan stolen from private garage, Brooks Street, Bryn Mawr, by two soldiers. Taken to Fort Mott, N. J., and dismantled. Car recovered and one soldier arrested (other deserted).

May 8. Negro thief entered girls' school, Roberts Road, Bryn Mawr, and stole clothing, jewelry, and old coins; also entered residence, 26 Bryn Mawr Avenue. Chased by Lower Merion and Upper Darby police to vicinity of Sixty-ninth Street. Dropped most of stolen articles, but escaped.

May 10. Sneak-thief stole $3,000 worth of jewelry from W. C. ———— residence, Merion.

May 14. Touring car containing four people skidded in front of a moving van from Paterson, N. J., going east on Lancaster Avenue. One killed and three injured. Driver of car was inexperienced, but said van was hogging center of the road. Three men on van arrested and admitted to bail to appear at next term of court.

May 22. Man blackjacked by negro, Gray's Lane. No attempt to rob. Assailant pursued, but escaped in woods along Mill Creek Road.

May 29. Bryn Mawr man run over by trolley, Sheldon Lane near Spring Avenue, and leg cut off. Died in hospital. Conductor and motorman arrested and exonerated by coroner's jury.

June 4. Body of murdered negro found on Hollow Road, near Gladwyne station. Department investigated, learning identity and history of man, and suspected murderer.

June 10. Sixteen-hundred-dollar diamond ring stolen, 274 Hathaway Lane, Wynnewood. Negro arrested and held for court. Ring returned.

June 12. Auto, stolen from Devon, recovered by department near Bryn Mawr station.

June 13. Charles ———— and wife Elsie in hospital after fight.

July 24. Liquor stolen from vault of residence, Maple and City Avenues.

July 27. House entered, 200 Rile Lane. Clothing stolen.

August 2. Hack driver assaulted and shot by three "fares," who tried to rob him. Escaped. One man arrested, whom driver could not identify.

August 17. Studebaker car stolen from garage, 20 Bala Avenue.

September 11. Suit case, jewelry, and clothing stolen, Cricket Club house, Haverford. Thieves arrested and all stolen goods recovered.

September 25. Tailor shop entered, 313 West Lancaster Avenue. $4,000 cloth stolen. No arrests.

October 4. Colored maid murdered and body burned in basement of residence, Woodside Road. James ———— arrested and committed by coroner's jury to await grand jury's action.

October 8. Bala station, P. R. R., entered. Clothing and silver stolen.

October 23. Woman struck by auto at Lancaster Avenue and Lehigh. Died in hospital. Chauffeur arrested and held to await action of coroner.

November 12. Three overcoats stolen, Cynwyd Club.

November 13. Truck, colored driver, going east on Lancaster Avenue, ran into bicycle turning out of Cricket Avenue, Ardmore. Bicycle rider died in hospital. Eye witnesses placed the fault on the bicycle rider.

Peter ———— and Morris ———— arrested for larceny of 20 gallons of whiskey from vault of residence, Rose Lane, Haverford. Held for court.

November 14. Auto ran into milk wagon, Lancaster Avenue, Haverford, injuring horse, wagon, milk, and driver. Auto driver and companion arrested, intoxicated. Held for court.

November 18. Auto ran into wagon, Old Lancaster Road near Sycamore Avenue. Auto driver arrested, intoxicated. (Two cases of beer in car.) Held for court.

November 19. Auto struck woman, Morris Avenue, Bryn Mawr. Driver took her to hospital and surrendered to sergeant. Held to await result of injuries.

December .. Two diamond rings lost from residence, 402 Bryn Mawr Avenue, Cynwyd.

December .. Residence broken into, Penn Avenue, Wynnewood. Family in Florida; cannot tell whether anything was stolen.

January 25, 1921. Assault and attempted robbery at Pembroke Road and Bala Avenue. Twenty dollars stolen.

January 26. House entered, 18 Maple Avenue. Watch and three pins stolen.

February 1. Ford car from Overbrook, stolen in Norristown, was found (abandoned) by department and returned to owner.

February 2. House entered, 324 West Spring Avenue; two suits of clothing stolen. Thief arrested, tried, and sentenced to two years in the Eastern Penitentiary. Clothes found.

February 6. Clothing stolen from stable, 636 Montgomery Avenue.

February 8. House entered, Latches Lane, Merion. One necktie fastener stolen.

February .. Eight Autocar employes and two receivers arrested, for stealing parts. Much of stolen goods recovered.

February .. Three-stone diamond ring reported missing, 2513 Bryn Mawr Avenue, Bala.

March 3. Thousand dollars' worth of liquor stolen from cellar of residence, Lancaster Avenue and Remington Road.

April 17. Store entered, Merionville. Three auto tires stolen. Thieves chased by officer, but escaped in auto.

April 18. House entered, Gray's Lane. Thieves discovered by watchman and escaped.

April 19. Store entered, Haverford, and $108 stolen. Thief arrested and $87 recovered.

April 20. House entered, Pencoyd. Diamond ring, two watches, and $21 stolen. No arrests.

April 28. Huckster arrested for stealing jewelry from Ardmore apartment houses. Jewelry recovered.

Information about the less serious crime must be gained from the record of arrests. This does not supply complete information, because it lists only the cases in which arrests were made. Also its classification is sometimes vague and unsatisfactory. But, within its limits, it is accurate and carefully kept.

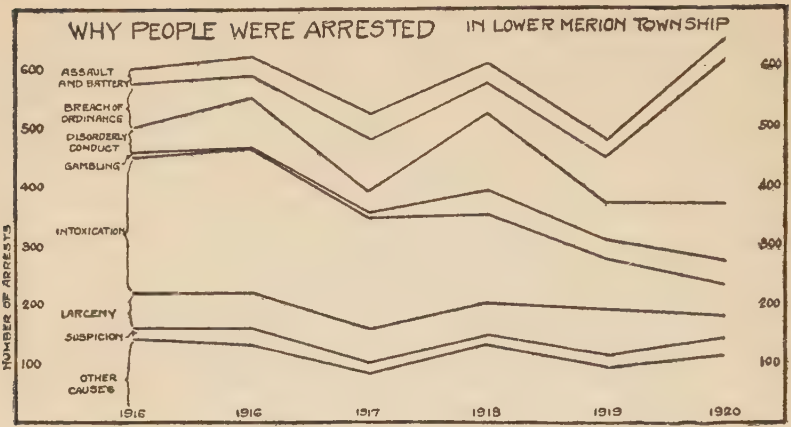
The total number of arrests during the six years, 1915-1920, was 3,463. The causes which led to an average of at least one arrest a year, over the six-year period, were as follows:

Causes of Arrest	Total Arrests per Cause During Six-year Period
Intoxication	977
"Breach of ordinance"	568
Disorderly conduct	457
Larceny	341
Assault and battery	200
Suspicion	138
Gambling	117
Runaway	86
Trespass	62
Non-support	52
Cruelty	34
Breaking and entering	31
Burglary	28
Carrying concealed deadly weapons	27
Malicious mischief	26
Vagrancy	26
Fornication and bastardy	22
Insanity	22
"Misdemeanor"	22
False pretense	17
Begging	16
Forgery	14
Highway robbery	14
Threats	14
Manslaughter	10
Rape	10
Receiving stolen goods	10
Embezzlement	9
Reckless driving	9
Arrested as witnesses	9
Fugitives from justice	6
Homicide	6

The brevity and simplicity of both these lists, considering the population and area of the township, is testimony to the effectiveness of the police force in preventing crime.

The trend of principal causes of arrest is shown graphically on the following page.

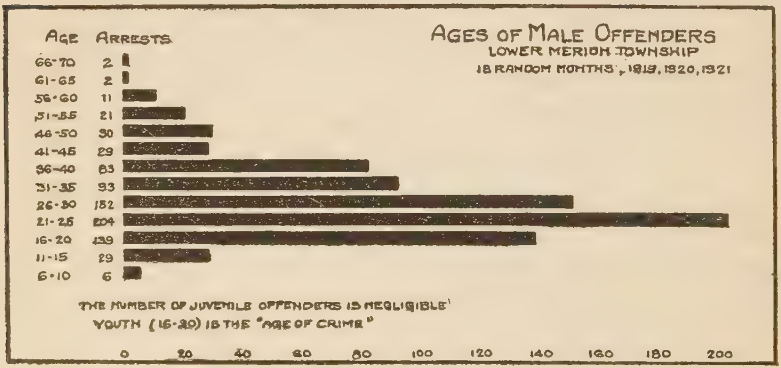
CHART VI-7



Report by Bureau of Municipal Research of Philadelphia - 1922

The record of arrests for intoxication is particularly interesting, the number of arrests having fallen from 255 in 1916 to 58 in 1920. The offences officially recorded as "breach of ordinance" are in very large measure automobile violations. Their sharp increase in 1920 was due to special efforts to punish traffic offenders.

CHART VI-8



Report by Bureau of Municipal Research of Philadelphia - 1922

The arrest record is also informative of the sex and ages of committers of crime. Of those with whom the department has to deal the overwhelming majority are males. During eighteen random months (of 1919, 1920, and 1921) there were only 52 females arrested, as compared with 823 males. The ages of the male offenders, as exhibited in the accompanying graph (figure VI-8), show, first, that there is practically no problem of juvenile delinquency, and, second, that the "age of crime" is from 16 to 30.

The places of arrest, furthermore, are a rough indication of the sections of the township in greatest need of police protection. By a tabulation of the arrests *which took place within the township,* during the years 1916-1920, the following is shown:

TABLE VI-9

PLACES OF ARREST (WITHIN LOWER MERION TOWNSHIP), 1916-1920

	1916	1917	1918	1919	1920	Five-year Total
Ardmore	302	249	212	183	198	1,144
Bala	2	4	56	14	46	122
Bryn Mawr	112	103	94	63	92	464
Cynwyd	13	9	30	35	32	119
General Wayne ...	4	..	1	1	..	6
Gladwyne	6	16	14	12	5	53
Haverford	35	42	21	29	26	153
Merion	82	60	23	18	62	245
Mill Creek	3	2	1	8	1	15
Narberth	8	21	13	18	42	102
Pencoyd	3	..	3	..	2	8
Rosemont	9	13	8	2	7	39
Villa Nova	6	14	8	..	14	42
W. Manayunk	23	50	69	27	43	212
Wynnewood	19	19	18	18	53	127
	627	602	571	428	623	2,851

This history indicates that nearly half the arrests in the township are made in Ardmore; and that, next after Ardmore, the parts of the township apparently in most serious need of protection are, in their order: Bryn Mawr, Merion, West Manayunk, Bala-Cynwyd, Wynnewood and Haverford.

DETECTIVES

Means of preventing crime and apprehending criminals are twofold: patrol, and detective work. The system of patrol has been described. For detective work there is no separate nor special organization. The detective work, the volume of which is comparatively large, is performed principally by the chief, assisted by the day sergeant, both of whom are experienced detectives. Efforts are being made to train the most promising members of the force in detective duty. Any or all members of the force are called upon for plainclothes duty as the need demands.

Identification and Repeaters

Neither Bertillon nor finger-print records are kept by the department, nor is any rogues' gallery maintained. In the judgment of the chief these aids are of little value in apprehending an unknown suspect and they are too expensive simply as a matter of record to aid in identifying repeaters. Persons whose finger-prints the department believes should be recorded are taken to Philadelphia, their finger-prints made and filed by the Philadelphia police, and a memorandum kept by the Lower Merion chief. Facilities for recording finger-prints and photographing also exist at the county jail at Norristown and are freely at the disposal of the department.

No record is kept of repeaters. There is no alphabetical record of prisoners or arrests. The only way a person not connected with the force could inform himself as to the extent of recidivism would be by examination of the long chronological record of arrests, and then his information probably would not be correct on account of false and duplicate names. The only source of knowing whether a person arrested is a repeater or a first offender lies in the memory of the chief, or some other member of the force, and the truthfulness of the person arrested.

Justices of the Peace

There are three justices of the peace in Lower Merion Township and any prosecution instituted by the department may be heard by any of the three. This gives the department a fair leeway for securing satisfactory cooperation. In the infrequent event that one of the justices will not co-operate with the department, he is avoided in the arrangement of hearings. Most of the cases are prosecuted by the chief, though the men on the force sometimes handle their own cases before the justices, the chief supplementing their efforts if needed. No records are kept of convictions secured by individual patrolmen, except the entries in the general record of arrests, in which is recorded the name of the man or men making such arrest and also the subsequent disposition of the case.

TRAFFIC

The problem now demanding the most earnest attention of the police in Lower Merion Township is the handling of traffic. The heavy volume of motor-vehicle traffic, converging literally from everywhere, crowds the narrow main highways of the township, bringing with it speeders, reckless drivers, and many otherwise respectable travelers who, being away from home, are lax about observing the rules and courtesies of the road. Literally hundreds of Main Line residents commute to business in their automobiles. There are other hundreds of pleasure seekers, especially the Sunday and holiday crowds. Commercial traffic is increasingly heavy. At night there are many fast travelers, with headlights which are blinding if burned full and insufficient if dimmed. Footpaths are not consecutive and frequently are found only on one side of the road. There is the disconcerting pedestrian habit of disregarding the paths for the roadway even when paths are there. The problem is complicated by motor-vehicle laws which tend to favor the motorists. Further, the police officials say that the activity of certain motorists' associations makes the enforcement of speed limits difficult.

There are two groups of steps to be taken toward the control of traffic: (1) the apprehension and prosecution of speeders, reckless drivers, and violators of the automobile laws; and (2) the control and education of traffic through the agency of semaphore officers and other special traffic men.

The Lower Merion police have done all they considered possible through arrests and prosecutions. The statistics of arrests on the preceding pages indicate the large percentage (probably one-sixth to one-seventh) due to infractions of the motor-vehicle laws. In doing as much as they have done, the officials have felt so handicapped and discouraged that until recently plans or efforts have not been evident for fully utilizing the second method of traffic regulation.

The semaphore post at Lancaster and Anderson Avenues, Ardmore, was for a long time the only one in the township. It is manned from 8 A. M. to 4 P. M. by a traffic officer, and from 4 P. M. to 6 P. M. by the patrolman on whose beat it is situated. Later than 6 P. M. and earlier than 8 A. M. it is not manned. Recently a second semaphore post has been established in Bryn Mawr. After nightfall, there is nothing in the township to exercise a restraining influence on traffic and remind travelers that there are automobile laws. Efforts to use "silent policemen" (traffic division posts, with red lanterns at night) have not been successful. The traffic promptly knocks them over. Traffic signs of various kinds seem to be unheeded and easily damaged, and at present are a detriment to the appearance of the highways.

The handling of the Ardmore semaphore has not inspired respect for the police department, or obedience to traffic law. The traffic officers do not always present a neat and policemanlike appearance. The man in charge of the post has been observed seated slouchingly in a chair under his semaphore, blouse unbuttoned. It was explained that he was a substitute for the regular officer. Both the substitute and the regular officer have been observed to engage in lengthy conversation with other officers or citizens, and this is reported as a frequent occurrence. Nor does the handling of the semaphore show precision or intelligence. An approaching motorist with a clear road frequently has the signal suddenly shut against him though there is no traffic approaching to cross his path. The department has not yet utilized the possibilities of courteous, alert, helpful semaphore-men as agents for educating and inspiring traffic to live up to its best.

Until recently, the use of motorcycle police has not been greatly favored because of their limited value in apprehending criminals. The noise of a motorcycle not only warns a burglar or highwayman of the officer's approach, but keeps him informed as to where the officer is and when it is safe to operate. But excellent handling of the township's crime problem through other channels has so reduced the volume of crime, that at present its control is actually a less pressing problem than the control of traffic. For traffic-control purposes, the use of motorcycles is practically indispensable, and the recent provision of three motorcycle men to patrol the length of Lancaster and Montgomery Avenues, for general police purposes but primarily to deal with speeders and motor-vehicle offenders, is a very commendable provision and a long step in the right direction.

THE MISCELLANEOUS POLICE FUNCTIONS

Only in a well-policed suburban district would it be possible to class enforcement of liquor laws and suppression of vice as "miscellaneous" police functions. In most cities, small or large, the safeguarding of public morals and the apprehension of morals offenders is a problem of overshadowing magnitude. In the larger cities, special squads must be maintained, not only to handle this phase of police work but also to handle its various branches separately. Thus there are liquor squads, gambling squads, narcotic squads, vice squads, and special policing of dance halls. Fortunately, the situation in Lower Merion Township has not called, and does not yet call, for such specialized police service. Arrests for intoxication have decreased remarkably, as shown by the statistics portrayed in figure VI-7; and this seems to be due, not to any laxity of law enforcement, but to genuine improvement of the social condition. Sex vice is confined to automobile parties and other overflow from Philadelphia. Road houses are few and seem well under control. Dance halls have not yet begun to invade the township. The only present straw to show the blowing of an ill wind is the increasing number of arrests for gambling, as indicated by the same chart (figure VI-7). The fringe of foreign population, especially in the West Manayunk district, is typical of an element with which the wise police committee and police chief deal liberally, so long as the public peace is not disturbed. It is an element which receives and assimilates American ideals and customs most kindly when its own deep-grounded habits are not forcefully interfered with. Between this and the embryo of the "gambling joint," however, there is a line which is somewhat hard to draw, but which must be drawn with precision and firmness. Premises habitually used for gambling become the congregating place of idlers, professional gamblers, and petty criminals, and quickly grow into festering spots of crime. As the township grows, vigilance must be constantly sharpened.

The other miscellaneous duties—assistance at fires; assistance to citizens and visitors, especially in the way of directing strangers, aiding the sick or injured, seeking lost persons or property, arbitrating petty personal or neighborhood difficulties—in the main are well performed. In noting and reporting bad hydrants, defective paving, broken street or traffic signs, defective electric wires, street-light outages, sanitary nuisances, and building operations, there seems to be some room for improvement.

A SECOND GROUP OF FUNCTIONS

The functions which have been discussed are obviously in line of duty. The task of a police force is to maintain the security of persons and property against physical hazard; to enforce laws and ordinances; and to safeguard public morals. It is their duty to preserve order; to regulate traffic; to rescue lives endangered; to render first aid to persons injured or ill; to be the eyes and ears of the community; to discover and report insanitary conditions, fire hazards, defective pavements, dangerous buildings, and other situations requiring official attention.

There is another group of functions belonging to practically every police department, which are not a part of its natural tasks. They range from the somewhat related to the decidedly incongruous. In Lower Merion Township they comprise:

1. Licensing of hacks.
2. Licensing of junk dealers.
3. Locating and relocating street lights.
4. Locating and relocating fire hydrants.

The first two items in this group should remain under the jurisdiction of the police and fire committee, and the supervision of the police department. The operation of hacks is regulated by ordinance. The granting of licenses for the purpose is incumbent upon some sub-committee of the commissioners; the clerical work is performed at the township commissioners' offices; and the desirability of close police supervision of the operations of these public conveyances suggests that the situation remain just as it is. The same thing is true of licensing junk dealers.

The theft of machine parts, especially automobile parts and automobile wreckers' products, is bound up with their sale through junk dealers to an extent which makes it extremely desirable that the township police department have intimate and exhaustive knowledge of every junk dealer's establishment in its territory. It is consequently economical and desirable for the present newly instituted licensing arrangement to be continued.

The location and relocation of street lights is a matter not essentially the province of the police department or the police and fire committee. Street lighting is a matter of police concern to the extent that well-lighted streets and roads materially discourage crime and diminish accidents. Recommendations as to the extension of street lighting will properly come from the police department, and should be encouraged; but the street lighting of the township belongs within the province of the highway department. The responsibility, the duties, and the appropriations for the purpose should be transferred to the highway committee.

The location and relocation of fire plugs should remain in the hands of the police and fire committee, but should be administered as recommended in chapter VII. This is not any special concern of the police department, and should no longer continue to be an added drag upon the hours and energy of the chief. As the township grows, care must be exercised not to let these extraneous functions overtax the energies of the police department or overshadow the importance of its primary work. Each suggestion of a new duty for the police department should be examined carefully to determine whether that is really the place in which it belongs or whether another branch of the township administration can handle it more economically, better, or equally well. The main duties of the police department are a job in themselves.

Appropriations and Expenditures

The appropriations and expenditures of the department for the years 1916-1921 are set forth in comparison in table VI-10. The classifications are those used by the township, except for a few consolidations required to make items comparable.

TABLE VI-10

APPROPRIATIONS AND EXPENDITURES

Lower Merion Township Police Department

	1916	1917	1918	1919	1920	1921
Originally appropriated	$32,000.00	$33,200.00	$40,000.00	$45,000.00	$69,465.00	$70,780.00
Appropriation after certain transfers to and from the department	31,500.00	35,400.00	40,000.00	45,400.00	65,465.00	68,280.00
Expended	$31,450.81	$35,374.01	$36,913.08	$45,098.28	$63,161.01	$67,053.35
Salaries	22,161.50	24,510.67	26,981.54	30,856.68	47,147.34	51,626.73
Uniforms	64.70	1,625.95	649.25	1,665.70	3,336.15	2,132.44
Feed and shoeing	1,978.78	2,148.14	1,949.16	1,290.02	1,381.16	1,172.84
Auto supplies, repairs, etc.	1,278.62	1,410.56	1,905.50	1,974.90	2,304.39	1,987.26
Gasoline	779.03	963.15	706.74	1,041.79	1,300.78	1,178.09
Oil	..	84.64	115.51	103.83	140.01	159.78
Telephone service	1,745.18	2,047.07	1,839.53	1,986.01	2,235.88	2,459.22
Insurance	745.55	802.55	604.97	807.17	1,139.97	1,246.45
Water, light, and fuel	428.26	438.09	394.24	427.77	455.34	446.89
Prisoners' meals	232.25	283.65	247.20	229.10	195.75	305.25
Veterinary and medical services	68.64	57.37	91.40	71.50	138.89	115.98
Traffic signs	..	..	72.00	378.45	..	250.00
Sundry expenses	713.24	777.17	617.04	807.38	1,087.40	1,774.22
Sundry outlay	1,255.06	225.00	600.80	3,457.98	2,297.95	2,198.20

SUMMARY OF PRINCIPAL RECOMMENDATIONS

In addition to the recommendations made hitherto in this chapter, Lower Merion Township, to put its police department into a condition best fitted to meet the demands upon it, needs to take the following principal steps:

1. Increase pay.
2. Add more men.
3. Redistribute beats and establish patrol booths.
4. Establish a traffic squad, and adopt preventive traffic measures.
5. Insure the maintenance of at least present standards of detective work.
6. Insure the maintenance of present standards of leadership.
7. Establish training-school facilities.
8. Amplify measures for crime prevention.
9. Establish an adequate system of records and reports.

PAY INCREASES

To have efficient police service, the township must purchase quality. Chief, sergeants, and patrolmen must be selected for ability, paid for it, and retained. They cannot be expected to serve at a sacrifice. There is comparatively little difference between the rate of pay that means contentment and the rate of pay that is not adequate to that degree. The property at hazard in Lower Merion is of no inconsiderable value, the annual amount required for police protection is a petty fraction of its worth, and no one can say that the population of Lower Merion Township is too poor to pay the bill.

The compensation of township employes is discussed in detail in chapter XI on Personnel. As recommended there, the pay of patrolmen, now $110 minimum and $125 maximum per month, should be increased to $125 minimum and $150 maximum, with a suitable scale of pay increases. Sergeants now paid $1600 a year should be increased to $2500. There is no worse condition of underpay in the police department at the present time, and probably none in any other department of the township, than in the pay of the sergeants. They are men of higher age than the patrolmen. They have graver family responsibilities. They are men of more highly trained intelligence and broader interests. Their standing in the community imposes a naturally higher standard of living. They are the men next in rank to the chief, eligible for promotion to that office. They must make themselves fit to assume its emergency responsibilities. Yet, actually they are men of long records of service in the department, at rates of pay which have necessitated severe skimping, let alone permitting the accumulation of any surplus. The sergeants are seriously underpaid and should have a first claim on any pay increases.

The chief's salary should be increased from $2500 to $3500. $2500 is no salary for Lower Merion Township to be paying its chief of police. It is undignified and inadequate. The office is one from which the highest type of professional service is demanded. It involves constant service without rest. It involves exposure to danger. It involves heavy executive responsibilities. As a practical matter, it even involves sufficient out-of-pocket expense so that at the present time an incumbent with the most modest scale of living cannot afford to hold the position without some income in addition to his township salary. It is a dangerous thing for any community to pay its chief of police a salary that drives him to partial dependence on outside income. Presumably the man selected by the Lower Merion Township commissioners to be chief of police always will be of unquestioned probity, but there is no adequate guarantee that history written of other communities will not repeat itself. There are always vicious interests ready to pay well for police protection, for freedom from police interference, and consequently ready to make up any deficiency in a police officer's income. There is no wider nor more common avenue to police corruption. To the extent that the township commissioners contribute to it, or invite it, they are responsible for it if it comes to Lower Merion.

It will not be many years in the natural course of events before the township commissioners will face the task of choosing another chief. The pay now attached to the office is inadequate to attract a new person of caliber sufficient to the task. If a lower-grade man is chosen, not only does the township suffer in quality of service, but the danger just expressed is imminent. If the temptation is resisted, the chief, from his meager salary, in effect makes a financial contribution to the cost of policing a township in which is displayed more than an average share of America's wealth.

In addition to increase of pay and the establishment of a pay-increase scale, the township should inaugurate a pension system for its policemen. It is not fair to take the youth and prime of a man in hazardous service for the township, at pay which will not permit him to lay aside adequately for his later years, and then turn him loose in his old age to shift for himself. It is not only unfair; it is not good business. It is bound in the long run to deprive the township of the services of the type of men needed to render service of quality. Men of foresight do not as a rule cut off their future if other walks of life are open which will treat them more kindly. The pension recommendations of this report (see chapter XI) should therefore be put into effect; and special compensation should be provided for members of the police department disabled in performance of duty, and for dependents of any whose death occurs in performance of duty. Police duty may at any time demand unreserved exposure to danger; and, consciously or subconsciously, men perform dangerous duties with much less hesitation when they know provision is made for their families.

The department's practice of furnishing uniforms and equipment is commended and should be continued. The practice, prevalent in some places, of requiring the men to buy their uniforms is decidedly opposed to departmental efficiency. Equipment should be standardized and interchangeable, so far as possible.

In the interest of better home-life for the members of the force, their time off should be increased. At present they have one day off a month, with no Sundays, no holidays, and fairly heavy extra duty. Improvement of working conditions is relatively inexpensive for the township, and it can accomplish much toward holding good men in the service and attracting desirable recruits.

More Men

The increase of force under the 1922 budget goes a long way toward establishing adequacy, but still the force is smaller than the size and nature of the territory demand. The division and manning of a territory for police purposes is a task which cannot be performed offhand or at arm's length. It requires careful planning, after thorough examination of the district and consultation with men intimately familiar with its units; and even then there is room for honest difference of opinion. The following specific suggestions do not presume to be final; but if the present investigators were responsible for policing Lower Merion Township, they would desire a force, even with the use of motor equipment and other facilities recommended, of not less than 62 men, composed and distributed as subsequently indicated.

Beats and Patrol Booths

Foot patrol in residential districts is an increasingly handicapped method of defense. It is effective only when the patrolman has a beat small enough to enable him to cover it quickly and continuously. Beats a half mile or more in length and width are unadapted to that type of protection. Furthermore, the patrolman on foot has little chance to catch or cope with the criminal equipped with an automobile. The day has passed when the prowling stranger could easily be noticed, watched, and followed, and identifying descriptions be obtained. Robbery, burglary, and larceny are perpetrated most commonly by non-residents of the immediate vicinity, who plan their crimes in advance and await their opportunity to act. Automobiles have made night travel much more common. Their occupants cannot be easily observed. Identification is difficult. The criminal is able to roam a wide territory. The felon is encouraged to bolder crimes because in a high-powered car his chances of successful escape are tremendously increased.

The uniformed policeman on beat has been of value as a deterrent and as he has chanced to be at the right place at the right time. The automobile has destroyed or seriously lessened both elements of his value.

Ordinary foot patrol cannot protect suburban territory except with an excessive number of patrolmen, at a prohibitive cost. Equipping men with bicycles is but a slight improvement. The men's range of activity is slightly widened, but they are at a disadvantage in bad weather and they cover their increased ground at the cost of added physical exertion, which is most acute when they try to meet an emergency. The bicycle is not to be looked upon as more than a sometimes helpful aid to a foot patrolman (but is recommended for that purpose).

Mounted men can cover somewhat larger areas than foot patrolmen; but not very much larger, because an eight-hour tour tires a horse. The mounted policeman is easily observed, his clatter warns of his approach, his horse may cause trouble, often at just the wrong time, and its care occupies no small share of the rider's constant attention. The mounted man is principally useful in broken country, and is recommended for use accordingly.

For these reasons the suggestions of this chapter are based upon the introduction of automobiles for patrol and the establishment of patrol booths.

The use of automobiles for patrolling was first thoroughly tried in Kansas City and in Berkeley, California. In Kansas City the practice was made necessary by a cut in the force, and proved profitable from the beginning. In Berkeley, where the force is particularly comparable with Lower Merion's, every patrolman is equipped with a small Ford car. "Patrolmen thus equipped," says the Berkeley chief, "travel over 1,000 miles of streets per month; respond promptly to emergency calls; are in good physical condition when they arrive at the site of trouble; are protected during inclement weather; and are able to perform their duties in a more satisfactory manner." The members of the Berkeley force are required to own their own automobiles, a practice which we do not desire to recommend. Each car is equipped with policemen's implements and with ropes and hooks to be of aid to the fire department and to help stalled teams and motor vehicles.

The excellent results of the Berkeley department are reflected in the following statistics of operation for the seven years 1908-1915. In this period the population increased from 37,000 to 64,000. The total membership of the force during the same time was increased by only five men. Reports and complaints of crime or other conditions requiring police attention increased only 14 per cent (as against the 73 per cent increase in population); whereas the value of property reported stolen decreased 28 per cent.

The Detroit police department placed 150 Ford automobiles on the streets in April, 1918, for patrolling beats formerly covered on foot. Each machine carries two men, one in plain clothes and one in uniform. During the first month of operation felony complaints were reduced from 654 to 528, a reduction of 126. In the second month of operation there was a further decrease of 65. The police inspector estimated that two men were able to do the work of four or five foot patrolmen, and to do it with more success.

The hesitation of many departments in taking up the automobile for patrol purposes is due to the cost involved in initial outlay and maintenance. On the other hand, if two men with an automobile can do the work of five on foot, the saving in salaries may more than offset the expense connected with the motor equipment.

The extent to which its adoption is suggested in Lower Merion does not make this consideration serious.

The patrol booth is in effect a miniature police station. It is a device which has proved its worth thoroughly in outlying residential districts of New York City and Detroit. The "booth" is a booth or room established at a spot conveniently located to an outlying area to be patrolled. Its operation requires that two (or more) men, equipped with motorcycle or automobile, be attached to a booth at the same time. One man remains at the booth while the other circulates through the district, returning periodically. At intervals, the men exchange duties. In an emergency the man at the booth is instantly available. The booth is connected with the telephone switchboard at the central police station. It might also have an independent telephone, though that seems neither necessary nor desirable. The booth places the department within immediate reach of the citizen who has no telephone and from whom the station-house is too remote for a personal trip. If the booth man is absent on an emergency call when his companion comes in, the companion remains at the booth until his return, unless a second emergency call demands his attention also. The district is given the benefit of patrol service better than foot patrol, and at the same time a policeman can be had at once if needed.

We suggest the following distribution of men for policing the township adequately:

1. Ardmore (boxes 12, 18, new box at Ardmore post office). Three foot patrolman (one per shift), supplemented by motorcycle men who are primarily traffic officers, but in effect patrol Lancaster and Montgomery Avenues continuously from end to end.

2. Merion (boxes 7 and 9). A patrol booth should be established at Merion, manned by three men, with bicycles, per shift. The present arrangement with the Merion Civic Association may be a potential trouble-maker and should be discontinued. The very helpful financial cooperation of the Merion Civic Association could be applied much more advantageously toward the maintenance of the patrol booth, and should be secured for that purpose if possible. Preferably the contribution should be paid directly to the township treasury and disbursed from that agency for the purpose to which it may apply.

3. Bryn Mawr, Rosemont, "the Prairie" (boxes 2, 4, 6, 5, 17, new box in Bryn Mawr). A patrol booth should be established at Bryn Mawr manned by two men per shift, equipped with an automobile for patrolling the Villa Nova–Spring Mill Road–Woodlane section. Three foot patrolman (one per shift), with bicycles, to cover Bryn Mawr.

4. Haverford, Gulph Road, Merion Square (boxes 1, 3, 17). One man per shift, equipped with automobile, starting out from the station-house at Ardmore. Three foot patrolmen (one per shift), with bicycles, to cover the Haverford area.

5. Ardmore, north (boxes 10, 13). One man per shift, equipped with automobile, starting out from the station-house at Ardmore. As second preference, three mounted men (one per shift).

6. Bala (boxes 16, 7). Three foot patrolmen (one per shift), with bicycles.

7. Cynwyd (boxes 15, 7). Three foot patrolmen (one per shift), with bicycles.

8. West Manayunk, Pencoyd (boxes 8, 14). A patrol booth should be established at West Manayunk, manned by two mounted men per shift.

9. Wynnewood (boxes 10, 11, new box on Haverford Road). Three mounted men (one per shift).

10. Narberth (new boxes). Three foot patrolmen (one per shift), with bicycles.

BETTER HANDLING OF TRAFFIC

We have pointed out the fact that the township is just beginning to put itself in shape to handle its traffic. Its task of handling traffic is three-fold:

1. To prevent and discourage speeding.

2. To prevent congestion at points where there is heavy traffic and cross-traffic.

3. To educate the traveling public for the improvement of traffic conditions.

For this undertaking the township has two semaphore officers and three motorcycle men. The latter, while always required to discharge the full duties and responsibilities of general patrol service, should be regarded as primarily useful to the township as traffic officers.

There is need for additional semaphore men, though it is doubtful whether there is need yet for additional permanent posts like those at Ardmore and Bryn Mawr. There is some demand for one in the Bala-Cynwyd district; but there are far more pressing needs for the money which the manning of this post would cost. There are points in the township, however, especially in the portion contiguous to the Philadelphia line, where temporary traffic congestion is serious, especially on Saturday and Sunday afternoons and on holidays. The township should be in position to man any of these points temporarily with semaphore service as needed. It is recommended that there be provided immediately an additional semaphore-man, and as soon as possible a second, to be shifted where needed. They could cover the needs of Bala and Cynwyd when not assigned to emergency service.

The selection of men for permanent motorcycle and semaphore duty should be made carefully and as the result of as much trial and shifting as necessary. Not every policeman has the "making" of a traffic officer. The desirable traffic officer "never becomes excited under provocation; he presents a neat, alert, and military appearance; he constantly watches vehicles and pedestrians; he is thoroughly informed as to the rules in force and insists upon their proper observance; he gives his signals clearly; he is familiar with his territory and willing to answer politely and accurately the inquiries directed to him."[8] He is also versed in the gentle art of turning off idle conversation. Obviously, not all policemen—not even all good policemen—possess these traits.

For permanent assignment to traffic duty, the chief must find men who do possess these traits. They should then be organized as a traffic squad; and the one among them best suited for the purpose, as the chief may recommend, should be appointed sergeant in command of the squad. He should receive a sergeant's pay.

[8] Graper, *American Police Administration.*

This sergeant should be assigned to motorcycle duty ordinarily, though he and all the others of his squad must be potentially interchangeable between semaphore and motorcycle duty. He must be a man with liking for the work, and susceptible to specialized training. His task is not only to perform his line duty, but continually to study and plan for the traffic needs of the township and to be responsible for meeting them. His squad will never perform line duty as a unit, for its members will be scattered among the several shifts. They, and the traffic sergeant himself, should be subordinate for all purposes of administration to the sergeant in charge of the shift; for that sergeant is the chief's deputy and in reality exercises a lieutenant's duties; and the traffic men, like all other members of the force, must be constantly subject to orders for any kind of police work which an emergency may demand. But the traffic sergeant and his men, working in their line of duty individually, will think and plan as a unit for the improvement of traffic conditions in Lower Merion Township. The problem is serious enough to require the full time, attention, and thought of a departmental staff officer.

The training of traffic men is as important as their selection. No training facilities exist in the township. Arrangements should be made with the city of Philadelphia to send the members of the traffic squad to the Philadelphia police-training school, for the instruction given to Philadelphia traffic officers. The township should allow the necessary time with pay for this purpose. The same training should be provided for a reasonable number of other promising members of the township force, so that the traffic squad will not lack substitutes or recruits. The traffic sergeant, in addition, should be sent on a wisely planned observation trip to near-by municipalities with traffic conditions approximating Lower Merion's.

The police and fire committee, in consultation with the chief, the traffic men, and the township solicitor, should charge itself immediately with the special duty of determining what corrective legislation is needed to make effective control of automobile traffic possible, and any changes agreed upon should be introduced and pressed through the next session of the legislature. Automobile clubs get favorable legislation because they do just this.

It is incumbent upon the township commissioners to undertake it in the public's interest; and the time to undertake it is now and not next January, for the proponent of legislative changes who does not know exactly what he wants and have his measure drafted exactly and seasoned thoroughly *before the legislative session begins* is under a tremendous handicap from the very start.

RECAPITULATION OF RECOMMENDATIONS FOR INCREASED FORCE

	Prior to 1922 Budget	Under 1922 Budget*	Recommended*
Chief	1	1	1
Sergeants	3	3	4
Patrolmen	27	35	45
Traffic men	1	2	3
Motorcycle men	..	3	3
House men	4	5†	5†
Turnkey	1	1	1
	37	50	62
Special patrolmen			
Merion Civic Assn.	2	2	..

*Not including three patrolmen for the borough of Narberth.
†Including one motorcycle man with side car.

SUMMARY OF RECOMMENDATION FOR DISTRIBUTION OF PATROLMEN

District	Boxes	Prior to 1922 Budget*	Under 1922 Budget*	Recommended
Ardmore	12, 18, new	3	5	3
Merion, north Merionville	7	3 (4)	3 (4)	9
Merion, south	9	3 (4)	3 (4)	
Bryn Mawr Rosemont	2, 4, new	3	5	9
Prairie	6, 5, 17	2	2	
Haverford Gulph Road Merion Square	1, 3, 17	3	4	6
Ardmore, north	10, 13	3	4	3
Bala	16, 7	3	3	3
Cynwyd	15, 7		3	3
West Manayunk Pencoyd	8, 14	2	3	6
Wynnewood	10, 11, new	2	2	3
		27	37	45

*Not including three patrolmen for the borough of Narberth.

DETECTIVE WORK

Lower Merion Township has been successful above the average in combating crime, and the succes is due in large measure to the very high quality of its detective work. It should be a concern of the department to maintain this high standard. This is largely a matter of alertness for men in the department with potential detective ability, and of training these men, principally by apprenticeship, so that the department will always have a working nucleus of a half-dozen capable men who will always maintain and build up the good tradition of the department.

It goes without saying that a patrolman on beat cannot do detective work, and, for that matter, does not necessarily possess the qualifications required in a detective. The fond idea that anybody could perform either kind of service, with the common practice of transferring men unhesitatingly and indiscriminately from one service to the other, has been the downfall of many police departments, and typifies the reason why America has no "Scotland Yard," nor any equivalent to the detective systems of Paris and Vienna. Detectives have to be developed by finding the men who have the necessary qualities and giving them special training.

The institution of photographic and finger-print record systems is not recommended at the present time. Within the next five years, however, there is every probability that it will be desirable for the township to have its own finger-print system, and this probability should be kept in mind in forecasting future plans for the department.

LEADERSHIP

There is another respect in which at least present standards should be maintained. It has been stated that the chief is the pervading spirit of the department. He is not only that; he is the mainspring which keeps it in activity. Probably it is not exaggerating to say that his personality affects the quality of performance of the department more than does any selection or refinement of methods. The selection of a new chief as occasion demands is the gravest responsibility borne by the township commissioners in policing the township. He should be chosen on the basis of ability and for no other reason whatever. He should be chosen with the intention that his period of service shall be long. Frequent changing of chiefs is extremely detrimental to a department. The recent record of tenure in the township is commendable.

As the township and the department grow, one development will be the diminishing usefulness of the police and fire committee as an administrative agency. It has been the history of most police departments that as the department grows it becomes increasingly difficult and finally impracticable to have the chief report to a board or committee and to receive administrative decisions from them. The board cannot act quickly, precisely, or decisively. Often the board finds it difficult to reach agreement, and frequently stagnation within the department is caused because matters in which the members of the board are not in agreement are simply allowed to drift.

The alternative in most municipalities which have passed through this stage of organization is the provision of a single civilian head for the department, who is the chief's superior and who usually takes the title of police commissioner. Then there almost invariably occurs a lack of understanding as to the division of duties between the civilian and professional heads. While this does not always result in friction, it does usually result in one head crowding the other out of place. Very generally it results in the police commissioner's undertaking a great deal of technical duty which the chief could perform better. Acting over the chief's head in matters of departmental administration, the commissioner undermines the entire dicipline of the department. As a matter of fact, the prevalence of civilian commissioners in American police organization, which has spread through copying and accepting an apparently established device, had its reason for inception in the difficulty of finding policemen who had come up through the ranks and possessed or gained administrative ability. Granted a chief with administrative ability, the police commissioner obviously is unnecessary. In the future development of its department, Lower Merion Township should profit by the experience of other municipalities. A two-headed department should be avoided. The post of chief should be kept filled by a professional policeman with administrative ability. He should not be interfered with in his administration of the department, for which the township commissioners should hold him solely responsible. If, in the future, a manager plan of government is adopted, the interposition of a "director of public safety" or other similar official should be avoided as an unnecessary fifth wheel. The chief's responsibility then should be directly to the township manager. The duties of the police and fire committee should tend rapidly toward purely advisory and policy-determining functions along broad lines.

Training the Men

It has been pointed out that it is necessary for the township to provide special training for its traffic men and its detectives. An equal need exists for training recruits for any kind of police service.

It must be remembered that the heart of police work is the contact of the individual policeman with the citizen. Police activity consists, in large part, of actions taken by patrolmen operating independently, in the field, away from headquarters. A large share of the business of a police department is simply the aggregate of this personal enterprise. The quality of a department's work depends on the observation, knowledge, discretion, courage, and judgment of the individual men. If the members of the force individually go about their tasks without intelligence, tact, or public spirit, the police department is a failure no matter how perfect its organization may be. Only as the selection of policemen is careful, and their training deliberate and thorough, can real success and satisfaction be achieved.

Two courses of procedure are followed by American municipalities in training their police recruits. One group of cities—by far the larger number—holds to the view of the old-time police official, that textbooks, classes of instruction, and written tests are of little worth in training a recruit for his task; and in these cities men are turned out in uniform with no more previous preparation than a little preliminary practice in company with a more experienced officer, together, sometimes, with a little physical drill.

Another group of municipalities holds that there is need for thorough-going instruction by classes, with a prescribed curriculum of studies relating to police methods and procedure. This group includes New York, Chicago, Philadelphia, Detroit, Cleveland, St. Louis, Cincinnati, Newark, Louisville, and Berkeley, California.

The record of Berkeley is of special interest to Lower Merion Township, because the two places are comparable, the conditions which the police have to meet are largely similar, and the policing has been done by a force practically identical in size with the force in Lower Merion before its recent increase. The Berkeley police school has its class meet one hour a day, taking three years to complete the courses laid out in the curriculum.

In New York, Philadelphia, and other cities, recruits are put through an intensive period of training for two to four months.

At the New York police training school, the school day lasts from 9 A. M. to 5 P. M., and from 9 to 12 on Saturdays. The following is a sample of the daily schedule:

9-9:30 Spent at the regular detective bureau "line-up" of criminals arrested the preceding day and night for serious crimes.
9:30-11 Classroom instruction.
11-12 Drills and physical instruction.
12-1 Lunch hour.
1-3 Classroom instruction.
3-4 Physical instruction.
4-5 Classroom instruction.

The classroom instruction covers substantially the following subjects:

- Deportment
- Patrol
- Observation
- Crime classification
- Arrests
- Traffic
- Animals
- Fires and accidents
- Ordinances and sanitary code
- Disorderly conduct
- Felonies and misdemeanors
- Assaults and weapons
- Homicide
- Larceny and robbery
- Burglary
- Children
- Court procedure
- Public morals
- Report making
- Election law
- Malicious mischief
- Sabbath law

Each recruit is supplied with the rules and regulations of the department and a textbook.[4] The instruction combines the lecture method with actual experiments in the classroom. Questions involving legal rights and limitations and police technique, are illustrated in class, and the recruit is enabled to visualize the practical situations with which he will be called upon to deal. Every effort is made to rivet the attention of the student by "acting" the situations, and by vivid example and dramatic incident.

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[4] Inspector Cahalane's *Police Practice and Procedure* has been used.

This daily course of instruction is supplemented by a schedule of special talks and lectures given by other members of the department, of various ranks and grades, chosen because of some achievement or proficiency in a particular line of work. Thus, lectures are given on the care and purchase of uniforms, on discipline, first aid to the injured, finger-prints, "trailing," handling of beggars, statistical purposes and uses of police reports, and the preparation of cases for the magistrates' courts. A certain amount of home work is assigned for each night, and reviewed and briefly discussed at the lecture period. Field work is important. Each recruit is assigned to "student patrol" from 6 P. M. to 10 P. M. every Saturday, Sunday, and holiday throughout the two months' period. This patrol work is done in company with an experienced patrolman, and at the end of each tour a detailed report of what he has seen and learned is required of the recruit. Self-defense is taught in its several branches. Exercises are given in ladder-scaling, and in carrying persons in rescue work. Every policeman must be able to swim and use the approved methods of life-saving.

Lower Merion's force has been too small to permit the establishment of facilities for recruit-training which would parallel the very practical work of the New York department; and properly so, though Berkeley has accomplished the equivalent with a smaller force. It is recommended that Lower Merion Township arrange with the city of Philadelphia for the admission of the township's recruits to the Philadelphia police training school; that the necessary time with pay be allowed for this purpose; and that each recruit to the Lower Merion force be required, before his permanent acceptance as a member of the force, to complete successfully this training school work, together with such supplemental instruction as the Lower Merion department may find desirable.

CRIME PREVENTION

Fighting crime resembles fighting fires. The best way to fight it is before it starts. The township's unrelenting insistence that there be no houses of prostitution, no disorderly resorts, no professional gambling places, and no speak-easies (at least before the days of home brew) is a practical example of the most effective kind of crime prevention, the keeping down of crime's breeding places. Pursuance of this policy has had much to do with the township's excellent crime record. It is another tradition of the department which should be maintained through future years. Additional measures for preventing crime should become the equal concern of the department, because recent years have considerably broadened our knowledge of why crime is committed, and hence our ability to combat it.

One of the principal measures is systematic education of the public regarding criminal practices—the unfortunate consequences of leaving doors unlocked, handbags easy to open, or notices on the doorbell that no one is home; the necessity of scrupulous care in hiring servants; the value of safety devices on automobiles; and the best methods of protecting business houses.

A second principal opportunity for preventing crime lies in discouraging juvenile delinquency. In this, also, the record of the township is good, in so far as the record of arrests gives evidence. Juvenile delinquency is likely to increase rather than decrease, however, and steps need to be taken and constantly maintained to win for the police force the affection of the boys and girls of the township. It is just as easy to establish positive friendship as to have children grow up to regard the policeman as their natural enemy. Efforts for that purpose in other municipalities have been fully justified.

A third principal opportunity for crime prevention lies in the relief of poverty, for poverty, especially when accompanied by unemployment, fosters apprenticeship in crime. Poverty in the suburbs often is more apt to be unnoticed and uncared for than in the city, because in the city more people are making its care their business. It is good police service to require of each patrolman a thorough knowledge of his district and the reporting of cases of destitution so they may be promptly investigated and relieved by the proper agencies.

Further development of the township may make desirable the employment of a policewoman, principally to undertake special work with juveniles, women, and girls, though this is not needed as yet and is not now justified in view of the immediate needs of the department.

The most helpful of the recent additions to our knowledge of crime prevention is the large gain in knowledge about determining the mental health and development of persons with criminal tendencies. It has become reasonably possible to determine whether an offender is mentally sound and responsible, and hence a proper subject for a correctional or penal institution; or whether he is mentally sick or deficient, and consequently not responsible, but in need of institutional treatment rather than punishment. It is common knowledge that the offender who is sent to the average jail gets further training in crime there, and comes out more likely than before to commit offences against the public safety. Sending mentally sick or deficient persons to jail is simply manufacturing criminals. It is good police service to have every patrolman, as well as the department officials, capable of sizing up a prisoner intelligently, and of handling the prisoner and steering the case, so far as the police department has jurisdiction or influence, so that apprehending the prisoner will not have started a process of producing more crime.

It is evident that the capable policeman has to develop something more than his muscle, even after he has passed the recruit-stage. It is earnestly recommended that the chief and the police and fire committee, in consultation, arrange annually a simple schedule of lectures, discussions, and conferences on matters upon which the entire force needs to keep posted. The township has a valuable resource in the men and women connected with the Philadelphia police department and courts, with certain of the colleges and universities grouped about the Main Line, and with the social agencies of the Philadelphia district; and in the interested members of the legal and other professions among the citizens of the township. With the cooperation of these men and women there could be arranged an informal course of very practical application to the every-day needs of the police officers and men. It would draw on the subjects of civics, sanitation, psychology, psychiatry, jurisprudence, criminology, criminal law and procedure, laws and ordinances, and police practice and procedure. Its meetings would be arranged for men off shift, and repeated so as to include all the shifts. Undertaken with determination to keep it on an intensely practical basis, it would prove its value promptly in improved quality of service, and not the least of the surprises would be the value and mutual helpfulness of experiences and suggestions brought forward by the men themselves when encouraged thus to take counsel together for the improvement of their own work.

SPECIAL SERVICES

Every police department has a number of varying needs for medical and surgical services, only one of which has been mentioned hitherto—that is the physical examination required of appointees to the force, now performed along lines required by the chief, by a physician of the chief's choosing. In addition to examining applicants for appointment (an infrequent task), a physician is needed:

1. To examine members of the force who report sick and ask to be excused from duty.
2. To order or permit return to duty of members on leave as sick or disabled.
3. To make periodical examination of all members of the force, and aid them to keep fit.
4. To give to the men emergency medical and surgical aid; and such other needed medical and surgical aid as may be reasonable for the department to furnish.
5. To recommend retirement for physical incapacity or superannuation.
6. To supervise the sanitary condition of the station-house.
7. To instruct the men in hygiene, first aid, and health matters.

With 50 men in the department, these needs are more pressing than with 30. In the near future they may make desirable the appointment of a police surgeon, who, at the beginning, need not give full time to township work.

Another recommendation for the near future is a definite arrangement with some capable woman to serve on call as police matron.

THE STATION-HOUSE

The station-house is business-like, well kept, and sanitary; but it is old, inconveniently planned, and most inconveniently located at the very edge of Ardmore and of the township, practically on the county line (opposite the County Line station of the Philadelphia-Ardmore traction line). Opportunity should be seized, when a new township building is constructed, to include station-house facilities in the plans. The result will be much more convenient and satisfactory service.

Meanwhile, attention should be given to centralizing the telephone service of the station-house and the township commissioners' office. Each has independent telephone service, with separate telephone numbers, and each is called very frequently by citizens in mistake for the other. It is exasperating to a citizen to be told he has the wrong branch of his township government, even though the error is his own. In emergency calls for the police department, sent by senders' error to the township commissioners' office, even the briefest delay may be dangerous. If possible, the station-house telephones (these having nothing to do with the department's call-box system) should be connected to the private-branch-exchange switchboard at the commissioners' office, so that all township calls will go to one telephone number. This, however, would involve all-night service at this switchboard, or else the practice of plugging the incoming telephone trunk lines to the police-station phones over night, and locking the connection so it could not be carelessly broken by a night worker at the commissioners' offices. The latter alternative would shut off the commissioners' offices from night telephone service, but that probably would not be a serious inconvenience. At any rate, the matter should be taken up with the telephone company (which might have still other suggestions), and a satisfactory arrangement established.

RECORDS AND REPORTS

A police force of 50 men cannot be managed without certain well-kept records and reports. These are essential in keeping track of all the men and their work; in determining the crime condition and planning preventive measures; in dealing with offenders; in attending to complaints and recovering lost or stolen property; in maintaining departmental discipline; and in informing the public of the operations of the department. It is gratifying to find the chief and the chairman of the police and fire committee now engaged in planning a record and filing system for the department, and to find that they are visiting nearby police departments to observe methods and gather suggestions.

The cause for criticism of the present departmental records must be remedied, however, before any new and more comprehensive system can be expected to work. That is, because there is no clerk to keep the records. The chief of an active force of 30 men has no time personally to keep departmental records. The chief of an active force of 50 men not only cannot keep records, but cannot be expected even to summarize them. There should be a capable and responsible clerk to the department, under the chief's supervision. This clerk should have charge of the records, keep them up to date, prepare periodic and special summaries, and lay them before the chief for use.

With the department thus equipped to handle all records, a satisfactory record system should be evolved and installed. Among other things, it should provide for:

1. *Patrolmen's pocket memorandum books.* Standard loose-leaf memorandum books containing special printed forms; so that matters observed on tour of duty may be reported in comparable form and inclusiveness by all the men, instead of according to 40 or 50 individual standards of judgment.

2. *A desk blotter.* A bound book, posted from a slate kept at the call-box switchboard, from the clock records, the sergeants' memoranda, and other sources, with each entry approved by the chief or by the sergeant in charge of a shift for which the entry is made. The blotter should present a chronological record of all movements of the force; time at which men reported at station, left station, reported at post, called in, and reported off post; roll-calls, and members of command absent at any roll-call; all matters reported by men affecting any duty performed by them; records by an officer in charge of shift of service performed by his men; delinquencies of members of the command, with full details; itemized record of property coming into custody of the department, with full details (except property taken from prisoners, which should be separately recorded).

3. *A time book.* A loose-leaf book, with a page for each member of the force upon which the member's time for a year is carried; with a supplementary page for each member of the force on which are recorded his days off, vacations, sick leave, and all other absences, with explanatory details.

4. *A crime-complaint book.* A bound book to receive no other record except entries of crime complaints received by the department; with printed headings calling for definite information concerning each complaint received and the action taken. Supplemented by printed cards having headings identical with those of the book, which can be filed alphabetically, and used conveniently in following up the complaint and for drawing off statistical information. The complaints should be serially numbered, and the records should show the number of the post upon which the matter occurred, the names of the patrolmen covering the post at the time, the detective service (if any) given, and each step of the course and outcome.

Information which this record will furnish includes (a) the section of the township in which crime complaints are increasing; (b) the classes of crime which are increasing; (c) the results obtained in investigating and attending to complaints; (d) the need of readjusting patrol methods or reapportioning posts. The crime-complaint book is the pulse of the department, and should be the most important and indispensable single record kept.

5. *A record of arrests.* A bound book, posted from a desk slate and supplemented by printed cards having headings identical with those of the book. The cards aid the follow-up of the case and the drawing off of statistical information, and should be permanently filed alphabetically so that the previous arrest record within the township of any person arrested can be determined at a glance. A filing system should be used[5] which is designed to refer automatically to possible changed spellings of names and simple aliases.

The arrests recorded should be numbered serially, and for each should be recorded the degree or class of case (felony, misdemeanor, vagrancy, juvenile delinquency, pick-up case, etc.), the charge, name, residence, age, sex, color, nativity, and occupation of prisoner, name and residence of complainant, name of arresting officer, place of arrest, and ample space for recording the course and final disposition of the case.

This record should be summarized monthly to show: number of prisoners, males, females; occupations of prisoners; ages of prisoners; number of arrests for each crime and class of crime.

6. *A record of accidents and aided persons.* A bound book, with printed headings, for recording complete accounts of all accidents observed and all persons aided through the department. The record should include a pedigree of each person aided, similar to the information taken in an arrest case; an index reference to the blotter statement of the facts; the names and addresses of witnesses of accidents, and an index reference to the blotter record of any statements made by them. Because of litigation arising out of street accidents, and conse-

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[5] E. g., the Russell Index.

quent demand for police records of accidents, such a record would be very valuable.

7. *A card record of vacant houses.* When the police department is notified that a residence is about to become vacant, or be closed, or when an officer observes a vacant or closed house, a card record should be made, showing the location of the premises, name of owner or occupant, probable time of reopening, name and address of the person to be notified of any unusual occurrence, and the name and description of any caretaker, watchman, or other person who may from time to time return to the house. An identification card, properly time-limited, might be given by the department to any such person, to establish proper identification if discovered in the house during the occupant's absence. The record card should be filed by the department, and the sergeants and patrolmen instructed to keep the premises under watch and try the entrances from time to time.

8. *A card record of suspected places.* Cards upon which patrolmen should be required to report premises suspected of being operated as gambling or disorderly houses, "fences," etc. Each card should show the location of the premises, name of occupant, name and address of owner, type and purpose of building, date reported, by whom reported, action taken to investigate or suppress, and final disposition.

9. *Roster cards.* A card or cards for each member of the force, showing name, residence, date of birth, date of entrance into department, promotions, disciplinary action, and functional assignments (as to traffic duty, etc.) On the reverse of the cards, entries of commendations of and complaints against the respective men, awards, rewards received, etc.

DAILY REPORTS

Each morning the clerk should lay before the chief a tabulated statement presenting at least the following information:

1. The number of complaints received during the 24 hours ended with the night shift just closed, classified as to crimes.
2. The same information, classified as to location.
3. The same information (both classifications), cumulated for the current month.
4. The same cumulated figures, comparative with (3), for the corresponding period of the previous year.
5. A list of all complaints received during the last 24 hours, and of all previous complaints not finally disposed of, with a memorandum of the status of each case.
6. The number of arrests during the last 24 hours, classified as to crimes.
7. The same information, classified as to the officer making the arrest.

8. A list of all arrests in the department record which have not yet reached final disposition, with a memorandum of the status of each case.

9. The number of reported accidents and persons aided during the last 24 hours.

10. New data received during the last 24 hours for the records of vacant houses and suspected premises.

The clerk also should aid the chief and the chairman of the police and fire committee in the preparation of their respective monthly and annual reports, and should take charge of and organize the correspondence and files of the department.

CORRESPONDENCE

This last need alone would justify the employment of a clerk in the department. When a citizen writes to the police department, especially if he writes a complaint, he regards the subject as important. The letter is delivered to the chief. If an adjustment can be made by immediate service from the department, and reported satisfactorily to the complainant through direct or indirect personal contact, the incident may be closed as far as future trouble for the department is concerned.

If the complaint requires time for adjustment, or if the complainant is away from the township, or does not reside in the township, or has a business or profession in the city and is away from home all day, the chief becomes responsible for sending him a written report or acknowledgment. The chief has no facilities for this. He may write the letter himself, or have some one at home do it, or make a trip to the township commissioners' offices to have the overburdened clerical force there add it to their other work if they can. Any of these methods of handling correspondence takes time and mental energy. But the chief has other duties which are extremely important and cannot be put off, including the meeting of emergencies. Consequently the writing of a letter may be allowed to drag over a day, two days, three days, perhaps a week or longer. The complainant becomes disgruntled and ready to accuse the department of discourtesy, sloth, and inefficiency. He and his friends are ready to believe ill of a good department; and that attitude on the part of citizens seriously handicaps the department in rendering good police service. If the department has not written its letter, it is handicapped, no matter how valid its reason. If the letter has been written, but the department has no carbon or other record of it, the department is just as badly off as if the letter had not been written at all. What is needed is simply a clerk, competent to handle promptly a small amount of correspondence and to keep up an efficient filing system in addition to the record work of the department. The need is sufficiently pressing to rank fourth in urgency among the present needs of the department: the three to which it must yield precedence being the increase in sergeants' salaries, the establishment of a traffic squad, and the increase in the salary of the chief.

CONCLUSIONS

The crime condition of the township appears to be excellent, and the police force effective in combatting and preventing crime. This seems especially true of vice control, gambling, and intoxication. Excellent ability and high ideals were found in the department. With very few exceptions, nothing was found meriting adverse criticism for which there were not evident reasons or mitigating circumstances.

The protection of the township is a task exceeding the resources which have previously been made available for that purpose. The increase of force provided in the 1922 township budget is a considerable improvement. Still more men are needed. The establishment of patrol booths is recommended, and also the introduction of the use of automobiles in the performance of patrol duty.

The force (the chief, 3 sergeants, 45 patrolmen, 1 turnkey[6]) is distributed to cover 9 beats or patrol posts, on 8-hour shifts, according to a modified 3-platoon system which is satisfactory and should be retained.

Communication with men on their beats is maintained through 18 patrol boxes with private wires to the police station. The system is satisfactory, but the automatic recording device is out of service. More boxes are needed, and are contemplated.

Supervision of patrol service appears satisfactory, but patrolmen should be held to more strict account for reports of conditions on their beats. Written memoranda should be required, according to uniform standards.

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[6] Budget of 1922.

There are no competitive tests for appointment to the force, but appointments and promotions appear to be made only as the result of careful selection. The existing method of selection and promotion seem adequate at present. Present methods of discipline are approved, with special commendation for the procedure of removal by the police and fire committee sitting as a trial board.

Training of new men is assumed personally by the chief. Good results have been attained in the past, but are not equally possible for the future. The township should arrange to have its police recruits admitted to the Philadelphia municipal police-training school, and in addition should institute locally an annual schedule of practical "brushing up" for the entire force.

Pay is inadequate throughout the department, both by outside comparison and by contrast with other salaries paid by the township. The most serious hardship is upon the sergeants, whose pay should be increased as the first measure of improvement undertaken. The chief is underpaid to an extent that compels the present incumbent to rely in part upon outside sources of income, which he fortunately has; but there is future danger to the township. More pay for patrolmen is recommended; also an increased allowance of time off duty, and a pension system.

Present standards of leadership should be maintained and built upon. Future chiefs should be appointed with a view to long terms of service in that office. The present record of long tenure is very commendable, as are the records for length of service throughout the department.

Present standards at least should be maintained in detective work, and effort should be devoted to building up and continuing a little group of capable detectives within the force.

Handling of traffic and of motor vehicles is the police problem now needing most serious attention. Two lines of procedure should be followed: apprehending and prosecuting offenders, and controlling and educating traffic. Creation and training of a special traffic squad is recommended. The nucleus exists in the present semaphore and motorcycle men. The squad should be put under a traffic sergeant giving his entire attention to studying, planning for, and meeting the traffic needs of the township.

Of miscellaneous functions, the licensing of hacks and junk dealers should remain with the department, but the duty of locating and relocating street lights and fire hydrants should be transferred to other departments. Care should be taken to avoid burdening the police with future miscellaneous duties which another branch of the township government might administer better or more economically.

A system of police records on an adequate basis cannot be said to exist and should be installed; but a prerequisite is the appointment of a clerk to the department to keep the system in operation and care for the neglected correspondence and files of the department.[7]

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[7] In making its appraisal of the Lower Merion Township police department, and especially in setting up a fair standard of comparison, the Bureau of Municipal Research has drawn freely upon Fosdick's *American Police Systems* (published by the Century Company) and Graper's *American Police Administration* (published by the Macmillan Company). Into these two books may be said to be packed the substance of what is known about American police administration. Acknowledgment is made to these volumes, their authors, and publishers, for the use of statistics, suggestions, and comparative information.

CHAPTER VII

FIRE

THE FIRE-FIGHTING FORCE

The "fire department" of Lower Merion Township is composed of the Bryn Mawr Fire Company, the Merion Fire Company (of Ardmore), the Union Fire Association (of Bala-Cynwyd), and the Ashland Heights Fire Company. All are volunteer companies, each with a tendency to be styled a "department." Additional companies, if organized in the township, may from time to time be received into the department by ordinance or resolution of the commissioners, but two qualifications for admission are established: the company must have real and personal property to the value, unencumbered, of $10,000, and the company must have been organized for at least two years.

ORGANIZATION

The township fire department is organized under an ordinance of 1908. Under its terms, the department is governed by a board, consisting of the chairman of the police and fire committee of the township commissioners, as presiding officer, and the chiefs of the several companies (each, of course, elected by the members of his company). Chiefs must be at least 25 years of age; must have been citizens and residents of the township for at least the four consecutive years prior to election as chief, and active members of their respective companies for at least a year; must serve without pay; and must take and subscribe to the oath required of township officers.

Having created the governing board for the department, the organization ordinance never again mentions it. The board has no duties or responsibilities, and apparently never meets. The duties and responsibilities of the department are divided specifically between the township commissioners, their police and fire committee, the chairman of the police and fire committee, and the company chiefs.

The quality of fire protection of the township depends on:

1. The equipment and efficiency of the volunteer companies.
2. The township's administrative control over the companies, especially in securing cooperation and enforcing discipline.

3. The water service.
4. The condition of the highways, affecting response to an alarm.

The township highways are fully discussed in chapter III of this report.

THE FIRE COMPANIES

The Merion Fire Company is housed comfortably on Greenfield Avenue, Ardmore. Its equipment is a Simplex-Watrous pumping engine, carrying 350 feet of 2½-inch hose, with a rated pumping capacity of 500 gallons per minute; and an Autocar hose wagon carrying 1,100 feet of hose, a 24-foot extension ladder, and a 35-gallon chemical tank with 250 feet of chemical hose. The company is reported as having in addition a reserve of 1,000 feet of 2½-inch hose.

The Bryn Mawr Fire Company is housed in generous and well-appointed quarters on Merion Avenue, Bryn Mawr, and is equipped with three huge pieces of motor apparatus, with full accessories, which would be the envy of any city department. Two of these are Ahrens-Fox pumping-hose combinations, rated at 1,000 gallons and 750 gallons per minute, respectively. The 1,000-gallon pump carries also a chemical tank, while the 750-gallon apparatus carries a water-booster pump. Two thousand feet of hose are carried on the machines, with 1,500 feet in reserve. The third piece of apparatus is a 50-foot Seagrave city-service truck.

The Union Fire Association is housed modestly but satisfactorily on Montgomery Avenue, Cynwyd. Its equipment consists of a 500-gallon-per-minute Gould rotary pump on Mack chassis; a Simplex chemical engine; and a Lozier hose car. With the Gould pump are carried a 24-foot ladder, a 12-foot ladder, and 1,200 feet of hose; with the chemical engine, a 24-foot ladder and 200 to 500 feet of hose. The company is reported as having a total of about 2,400 feet of hose, on the apparatus and in reserve.

The Ashland Heights Company, a struggling young organization in a struggling community without water service, is equipped with a Ford chemical engine with hose, and a light ladder truck intended to be horse-drawn, formerly used on a private estate The company is very inadequately housed.

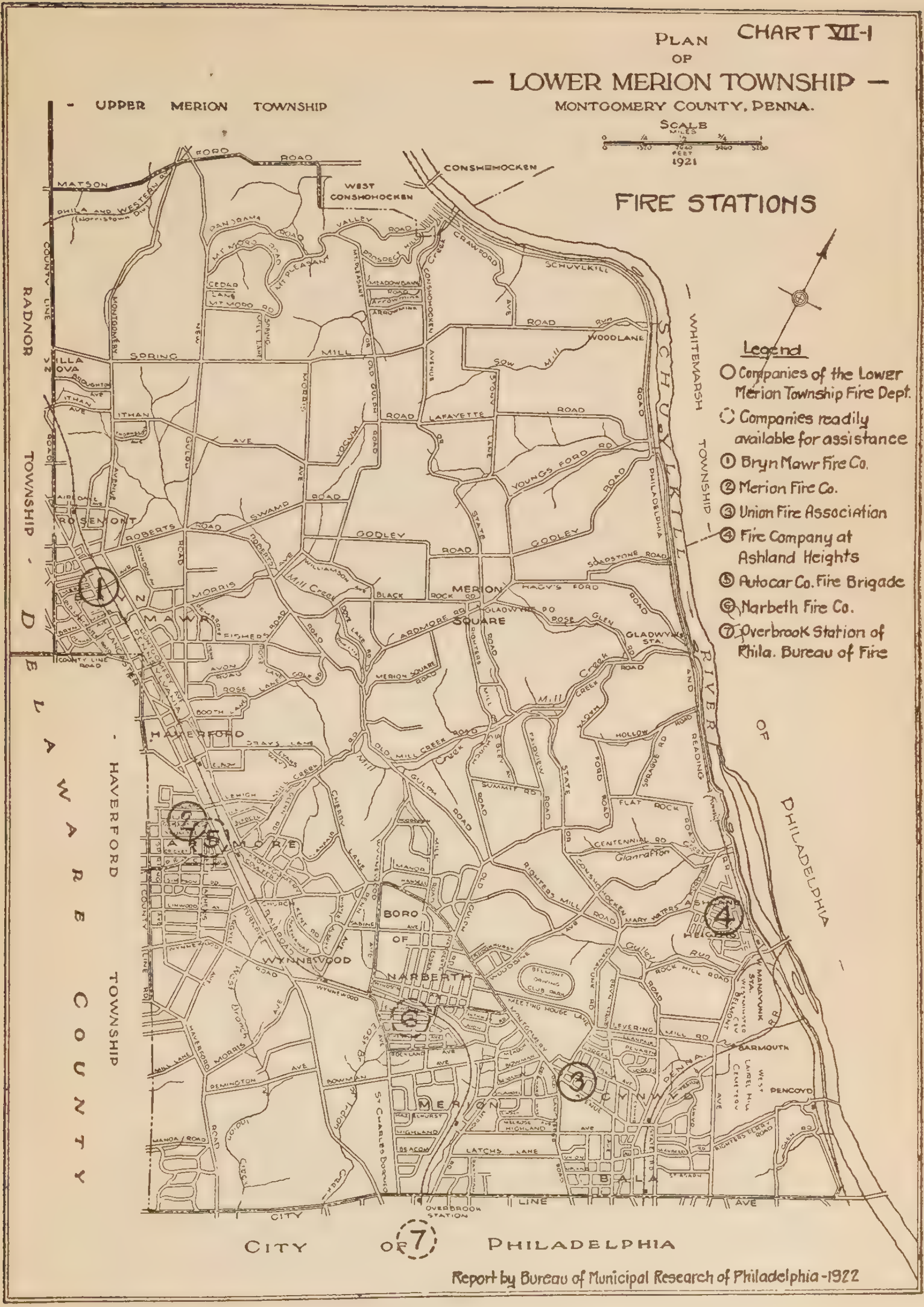

CHART VII-1

PLAN OF
— LOWER MERION TOWNSHIP —
MONTGOMERY COUNTY, PENNA.

SCALE
1921

FIRE STATIONS

Legend
- ○ Companies of the Lower Merion Township Fire Dept.
- ◌ Companies readily available for assistance
- ① Bryn Mawr Fire Co.
- ② Merion Fire Co.
- ③ Union Fire Association
- ④ Fire Company at Ashland Heights
- ⑤ Autocar Co. Fire Brigade
- ⑥ Narbeth Fire Co.
- ⑦ Overbrook Station of Phila. Bureau of Fire

Report by Bureau of Municipal Research of Philadelphia - 1922

Among the resources of the township, though not a part of the department, is the equipment of the Autocar Company. This consists of an Autocar hose wagon, carrying 1,200 feet of hose, a 24-foot extension ladder, a 35-gallon chemical tank with 200 feet of hose, and a pulmotor outfit. This equipment is manned by a permanent, paid driver, and by a volunteer brigade of Autocar Company employes, and answers calls regularly, along with the township apparatus, anywhere in the township.

The Narberth fire department answers calls within the township area. It is the nearest company to Merion. The Overbrook station of the Philadelphia bureau of fire is situated close to the township and comes into the township on the request of a responsible authority (i. e., a township official or company chief) to the superintendent of the Philadelphia fire bureau.

Taken in aggregate, the equipment of the township probably would be sufficient to meet present needs if the equipment were differently distributed. The Bryn Mawr company is over-equipped; the other companies are under-equipped, either from insufficiency or from age of apparatus. The greatest need for a high-capacity pumper is in the congested district at Ardmore; while the Bryn Mawr district would be sufficiently protected, for the present at least, by one powerful pumper and a much lighter one as a reserve. The only ladder truck in the township is situated far toward the northern part. It should be supplemented by another at Bala-Cynwyd, or else should be located centrally at Ardmore. There should be an additional fire station in the Merion district, unless an effective union of the Narberth company and the township department could be arranged in order to fill the gap partially.

If all the equipment were owned by the township, or by a single volunteer department representing the township area, it would be easy to redistribute the existing apparatus so that, with proper repairs and with maintenance kept up to a common standard, the entire township would be sufficiently equipped for protection without additional outlay. Of course the equipment is not owned as a unit, and it would not be easy to reach an agreement for a redistribution. Yet it would be unfair to allow facilities for fire protection to grow according to wealth and civic aggressiveness, independently of direct relation to congestion and fire hazards. The township commissioners' task is to accomplish as nearly as possible the result that would be secured by a redistribution, by insuring effective cooperation and unity of action between the several companies upon whose performance the citizens of the township must depend.

This involves central supervision by the township, exercised through hands competent and independent of any of the companies, and hence impartial to all. It involves the recognition and acceptance of a direct line of authority to determine, among other things, who shall answer an alarm (in order to avoid leaving parts of the township unnecessarily without protection); to establish command at a fire, especially where two or more companies are present; to set and improve common standards.

In making our recommendations, we naturally emphasize the shortcomings, rather than the accomplishments, of volunteer firefighting. Especially in view of this fact, we wish to preface our further discussion of the with an express tribute to the fine civic spirit of the township's fire companies and their members, and to the unselfish devotion which we believe underlies the traditions and prompts the development of the companies. Their members undertake freely, with no thought of reward, a necessary community function which involves work, sacrifice, and few thanks. It is essentially upon the cooperation of the members of the fire companies that the carrying out of the improvements recommended by this report will depend. We believe that the township commissioners may expect this cooperation; and that, in fact, traditions leave nothing else to be expected. As to the foibles and shortcomings of volunteer fire-fighting, we believe they are realized and appreciated by none more keenly than the firemen themselves. The only thing unlikely to be realized is that there is always a point of community growth which demands that each natural foible or shortcoming be corrected in the public interest.

Administrative Arrangements for Handling Fires

The organization ordinance directs the board of township commissioners to designate the territory within which each company in the department shall operate, and confers upon the chief of each company charge over all fires in his territory. If it is necessary for more than one company to operate at a fire, any or all other companies in the township are directed to respond to the call of the company chief within whose territory the fire occurs, and to be subject to his supervision.

Arrangements are made with the telephone centrals of the township, on receiving an alarm of fire, to telephone it to the fire house and to certain designated officials of the fire company within the proper fire district; and also to the chairman of the police and fire committee and to the police station. Almost absolute reliance is placed upon the telephone for transmitting fire alarms, since it is considered that nearly every house in the township has a telephone, or is within immediate reach of one. There is no other fire alarm system.

What actually happens, most frequently, is that the excited person who discovers fire not only telephones a general alarm, but calls up each fire-house he or she can think of, often including some outside the township. Ordinarily no volunteer fire company loses an opportunity to go to a fire. Furthermore, there is always potential danger in a fire, so that when a call comes in, the company called is not going to stand on ceremony as to the district from which the call comes. If someone has thought it necessary to call that company, ordinarily the company is going.

Consequently, practically every alarm, no matter how trivial, brings out all the companies within reach, and automatically raises the question of supervision, priority, and the right to take charge. If current report and fire-house gossip are credible, there are frequent arguments as to whose jurisdiction the fire is in; especially when the premises lie approximately on the boundary line between the bailiwicks of two companies. For example, an instance is reported where the second company reaching a fire disconnected an operating hose line of another company, because the second company was sure the fire was within its territory. After this incident, threats were reported that at the next fire to which these two companies might be called, the offended company would put more water on the offenders than on the fire. Another instance is reported[1] where a company answering a call received what they considered an uncivil answer from the person who had sent the alarm, when that person was questioned as to how the fire started. Members of the company are said to have told the individual that if she felt that way about it, she had better put the fire out herself, or get someone else to do it; the result being that another company did have to be called to put out the fire.

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[1] By a township official.

These rivalries are inevitable among volunteer fire companies, especially when healthy rivalry between their communities is augmented by considerable difference in circumstances, resources, and sumptuousness of equipment. Lower Merion Township probably is no worse off than any other place relying upon similar facilities for fire protection; only Lower Merion Township cannot afford to be "no worse off." The property for protection of which the township is responsible is too valuable. Volunteer companies will continue to be the main reliance for some time to come. To be sure, it is to be hoped that, as a part of the development expected under the reorganization recommended in this report, the companies, by providing and offering dormitory and desirable club facilities, may arrange for a number of young men to room permanently in their stations, until each company has four such men staying in its fire-house at night and immediately available in case of an alarm. Without essentially modifying the volunteer system, this would immediately bring to the township one of the major benefits of a paid department. If supplemented by further arrangements, by salary or otherwise, whereby two men could be kept constantly on duty at each station all day, still more of those benefits would be realized. This is a matter primarily of internal company development; but since its accomplishment doubtless will be dependent upon increased township appropriations to the companies, it deserves mention in this report.[2] Meanwhile, it is the duty of the township commissioners to establish actual control over the volunteer companies' services and organize the companies into an effective department—not an impossible task.

Chiefs of the several companies, besides having at fires the power of a township police officer and the authority to call upon the police chief, or any of the police force, for any assistance needed, are required to investigate all fires and keep a full record of them in a record book, open to inspection at any time by the chairman of the police and fire committee. In addition, each fire company chief is required to report monthly to the chairman of the police and fire committee all fires occurring in his district, showing the date of each fire, location, owner and tenant of premises, time of alarm, time of arrival at fire, description of property burned, and, if possible, the origin of the fire. The chairman of the police and fire committee is required to keep in a special book a full record of all the fires so reported.

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[2] A comprehensive report on the facilities for fire protection in the "protected zones" of Lower Merion Township was prepared by the Philadelphia Suburban Underwriters' Association, and publication is expected in the summer of 1922. The report is commended to the township commissioners for consideration.

The chairman of the police and fire committee is directed to inspect the fire-house and apparatus of each company in the department once every three months, and to recommend in writing to a company any change or improvement deemed advantageous to the department. If the company does not comply within thirty days, it becomes the duty of the chairman to certify the fact to his committee for "appropriate action."

For the support of the fire-fighting service, the township commissioners make an annual appropriation to each company comprising the department. The annual sum may be any that seems proper to the township commissioners and is paid in semi-annual installments. From each installment there are supposed to be deducted fines assessed by the chairman of the police and fire committee for violation of any of the regulations imposed by the organization ordinance. The amount of each fine may vary from $10 to $50. Appeal may be taken by the company chief to the board of township commissioners from the imposition of a fine larger than $10, but not otherwise.

One of the principal regulations imposed by the organization ordinance is the making of the monthly company report of fires. These reports are chronically overdue, frequently not made at all, and often perfunctory when they are made. They do not give the information called for; and what they do give is not comparable as between companies, especially in the estimates of value of property saved. There are long gaps in the file of these reports at the township commissioners' office, although there have been frequent letters from the township secretary to the companies reminding them of overdue reports, submission of which is supposed to be a condition precedent to their receiving their township appropriations.

Yet no record exists of a single deduction from a township appropriation to a fire company in at least six years. Table VII-2 shows the township appropriations for fire protection for the years 1916-1921, together with the expenditures and their distribution. The increased figures for 1918 are due to special appropriations in that year for purchase of hose.

TABLE VII-2

Appropriations to Fire Department and Payments to Companies

Year	Appropriation	Total Paid Companies	Bryn Mawr Fire Co.	Merion Fire Co.	Union Fire Association
1921......	$6,000	$6,000	$2,000	$2,000	$2,000
1920......	4,500	4,500	1,500	1,500	1,500
1919......	4,500	4,500	1,500	1,500	1,500
1918......	6,000	6,000	2,000	2,000	2,000
1917......	4,500	4,500	1,500	1,500	1,500
1916......	4,500	4,500	1,500	1,500	1,500

It is evident that the fire companies, though animated by public spirit and composed of willing and able volunteers, are not in fact organized into a fire department; that the regulations under which they are supposed to be so organized are not observed; that the organization machinery provided by the township is illogical and inconsistent and does not work; that inspectional duties requiring technical proficiency are imposed upon the chairman of the police and fire committee, who is almost certain not to have the appropriate technical ability, who has other far more important official duties, and whose business or profession may require him to spend practically all of his daytime out of the township. The township commissioners do not have the control over their fire-fighting force which their responsibility for the fire conditions in the township demands.

Company Expenditures

As a supplement to the table of payments to the fire companies, the following table (VII-3) shows the comparative relation between township payments and company expenditures reported by the Bryn Mawr, Merion, and Union companies for the year 1920; and also gives an indication of the items embraced in the maintenance costs of the companies:

TABLE VII-3

FINANCIAL STATEMENT OF FIRE COMPANIES * LOWER MERION TOWNSHIP

(1) *Bryn Mawr Company*

February, 1919—February, 1920

Receipts			$6,751.26
(Not detailed)			
Expenditures			6,460.86
(a) To maintain fire service		$4,256.86	
Salaries	$1,274.50		
Salaries	1,135.00		
Gasoline	116.15		
Auto repairs	15.90		
Spark plugs	12.50		
Engine oil	16.10		
Telephone	2.03		
Insurance	870.68		
Water	46.04		
Coal	262.43		
Laundry	20.99		
Gas and electricity	299.66		
New boots, coats, etc.	116.50		
Repairs to building	66.38		
Dues, City Firemen's Assn.	2.00		
(b) Expenses for hall and games in basement,		2,204.00	
Balance			$290.40

*Contained in special reports requested from the fire companies by the township police and fire committee, in 1920.

(2) *Merion Fire Company*

March, 1919—January 23, 1920 (11 months)

Receipts		$4,094.48
Balance on hand	$ 563.55	
Township appropriations	1,500.00	
Dues	285.75	
Application fees	5.00	
Donations	180.00	
Rents	327.00	
Turkey fairs	1,220.82	
Interest on bank deposit	12.36	

Expenditures		$1,755.93
Salaries	$690.00	
Upkeep and operation of engines	250.70	
Coal for heating building	182.90	
Lighting for building	61.90	
Building and loan association dues	200.00	
Lock box	3.00	
Interest on mortgage	61.17	
Printing and postage	46.00	
General supplies, house	156.79	
Water rent	9.00	
Revenue tax	12.50	
Dues to state and county associations	5.00	
Telephone	1.97	
Furniture	75.00	
Balance		$2,338.55

(3) *Union Fire Association*

1919

Receipts		$4,620.88
Township appropriation	$1,500.00	
Donations	50.00	
Receipts from rent, pool, cigars	867.17	
Dues	1,685.00	
Sale of old truck	500.00	
Miscellaneous receipts	18.71	
Expenditures		4,705.96
Wages	$2,005.00	
New chassis, etc.	885.00	
Coal	285.80	
Building and loan dues	300.00	
Electric light	138.59	
Interest	351.00	
Compensation insurance and bonds	48.00	
Tax on pool table	25.00	
Relief fund	60.00	
Gasoline	126.42	
Printing and postage	80.55	
Water rent	22.90	
Fire pension fund (Phila.)	5.00	
Flowers	17.00	
Gas	23.60	
Cigars	48.60	
Repairs to house	136.50	
Miscellaneous expenditures, chemical, etc.	147.00	
Deficit		$85.08

FIRE HYDRANTS

Hydrant service is provided by rental from the Springfield Water Company. There are approximately 180 plugs, which now cost the township $60 per annum each.

The chairman of the police and fire committee reports good cooperation from the company in supplying water and furnishing pressure at fires. A difficulty has been reported by officials in making pressure tests on the mains. It is reported that the water company will permit tests to be made only by representatives of the company in the presence of representatives of the township, on days fixed by the company. The township officials contend that the tests should be made by the township; and that, with the time of the "test" known to the water company in advance, the test is no assurance of safety. The chief of police, whose duty it now is to certify the results of pressure tests to the township commissioners, has refused to certify the result of such tests.

This would not seem relatively so important, in view of the limited worth of pressure tests in determining the degree of sufficiency of fire-hydrant service. What counts most at a fire is not pressure but flow. The city of Philadelphia, with low pressure, can deliver much more water for fire service than the water company can deliver in Lower Merion Township with much higher pressure, because the city of Philadelphia has far greater flow.

Random static pressure tests at a few hydrants here and there consequently tell little about the availability of water for fire service all over the township. The water company ought not to object, however, to the making of such tests by the township, even unannounced, provided the agent of the township who makes each test is a competent water engineer, and provided the company can be satisfied that in opening each hydrant the interests of the water company, as well as those of the township, will be conserved.

But what seems needed is not static pressure tests, nor even flow tests (to which the water company might be justified in objecting unless made by its own representatives). What is needful is the inclusion of hydraulic engineering ability within the township's engineering service. The township should have, either as an engineering employe or as a part-time or consulting assistant, a man who knows water-supply problems. By maintaining cordial cooperative relations with the private water company, he could safeguard the public interest in the company's plant development and extensions. From existing records and his own engineering observation, supplemented by special tests when necessary, he could keep the township commissioners correctly and currently informed on the entire water situation (not merely its fire protection aspects)—an important municipal function to which the commissioners give practically no attention—and he could doubtless secure for the public many valuable advantages simply through foresight, suggestion, and conference.

The most serious aspect of the water situation with which the police and fire committee has to deal is that the water company does not have mains extending into a large section in the Ashland Heights district, which is badly in need of fire protection; and that in other parts of the township, community growth has outstripped the mains and left them unsuited by size and arrangement for first-class fire-fighting service. No official action seems yet to have been taken to meet these conditions, presumably because of the cost. Nevertheless, it is part of the task of providing adequately for the public safety, and the township should make up its mind to face the issue, or find an alternative way out.

The placing and relocating of fire plugs is determined by vote of the police and fire committee upon recommendation of the chief of police. This is a duty of which the police chief should be relieved, as recommended in the preceding chapter. Also, it is not a duty of sufficient importance to require deliberation of a committee of township commissioners. Having determined the number of hydrants to be maintained during a given period, the committee should delegate authority for location and relocation to responsible administrative officials, as recommended subsequently in this chapter.

Fire Prevention

Responsibility for fire conditions extends not only to fighting fires but to preventing them. Of the two, prevention is more important. Yet the Lower Merion Township fire department does no preventive work. The official forces in the township in any degree active in fire prevention are (1) the local representative of the bureau of fire protection of the department of state police, and (2) the township police department.

The local representative of the bureau of fire protection has as his principal duty to report to the state office each fire which occurs in the township, the amount of loss, and certain other pertinent facts. He is primarily a reporting officer. Secondarily, he recommends the remedying of such bad fire hazards as he may see. But he is usually a business man, carrying his fire preventive duty as an extra which receives such time as he may find to give to it. He has little time to make tours of inspection; they are not a part of his primary duty; and recommendations he may make are not often taken very seriously by his business associates and fellow-citizens. His only recourse is to complain to the township police department (which he is unlikely to do unless the hazard is unusually serious), or wait (perhaps months) for the next visit of a traveling inspector from the state fire protection bureau.

The township police department probably is responsible for most of the cleaning-up done in the township; but its action is casual in line of duty, and directed mainly against evident dangers to the public safety. It does not bear the responsibility for seeking and rooting out fire hazards, or for constantly educating the public against them.

The wonder is that the township's condition should be as good as it is. Tables VII-4, VII-5, and VII-6 to some extent indicate the condition. Table VII-4 shows the number of orders issued by the bureau of fire protection of the department of state police, as the result of a special inspection of Lower Merion Township in the summer of 1921, in cooperation with this survey. Tables VII-5 and VII-6 itemize the fire loss of the township for the years 1919, 1920, and the first six months of 1921. Their data were furnished from the records of the bureau of fire protection of the department of state police.

TABLE VII-4

SUMMARY OF ORDERS ISSUED FOR REMOVAL OR REMEDYING FIRE HAZARDS*

Total buildings or premises inspected		268
Orders issued		21
For removal of rubbish and waste accumulation and regulating proper disposal thereof	16	
For regulating storage and handling of volatile inflammable liquids and explosives	3	
For installing fire extinguishers, sand and water buckets,	2	
Orders not necessary		247

*Special Inspection of Lower Merion Township, Bureau of Fire Protection, Department of State Police (Summer, 1921).

TABLE VII-5

FIRE LOSS, LOWER MERION TOWNSHIP

Classified by Structures

1919-1921

Structures	1919		1920		1st 6 Months 1921	
	No. Fires	Loss	No. Fires	Loss	No. Fires	Loss
Academies, schools, colleges, universities	1	$ 36	1	$ 23	..	$ ..
Apartment houses, boarding houses, dwellings	44	14,148	75	66,884	33	21,713
Automobiles	1	400	1	196	..	..
Bank and office buildings	1	250	..	..	..	..
Barns and stables (city and town)	3	3,591	..	..	..	..
Chapels and churches	1	1,900	..	..	1	1,800
Club, lodge, and society rooms	..	..	..	..	1	1,308
Farm property:						
Barns and stables	..	..	1	2,000	..	..
Dwellings	2	34,603	..	..	1	2,623
Garages—private	2	55	3	3,665	1	250
Garages—public	..	..	1	334	..	..
Livery and sales stables	..	..	1	3,759	..	..
Lumber yards	..	..	..	..	1	200
Mercantile establishments	2	80	5	471	2	3,066
Outbuildings (city and town)	1	775	..	..	..	..
Railroad (steam) property—miscellaneous	..	..	1	75	..	..
Storage, miscellaneous	1	8,000	..	..	..	..
Theatres and motion-picture houses	..	..	1	968	..	..
	59	$63,838	90	$78,375	40	$30,960

TABLE VII-6

Fire Loss, Lower Merion Township

Classified by Cause

(a) 1919

Cause	No. of Fires	Loss
Adjoining fires	1	$ 55
Ashes (hot)—careless disposal	2	249
Backfire	1	400
Chimneys, flues, stacks—defective or overheated,	1	125
Cigars and cigarettes (lighted)—carelessly discarded	1	15
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights	1	26
Electric wiring—defective	6	449
Explosions:		
Alcohol, gas, and oil stoves and heaters	2	29
Gas leak	1	35
Furnaces, heaters, stoves, and their pipes—defective or overheated	4	1,970
Grease ignition on stove	1	43
Lamps and lanterns—overturned	2	41
Lightning (no report as to rods)	3	289
Matches—careless use and keeping	3	241
Matches—children	3	1,383
Matches (lighted)—carelessly discarded	1	25
Sparks:		
Chimneys, flues, stacks, cupola	3	3,017
Fireplaces	5	220
Rubbish and brush burning	1	775
Undetermined	16	54,407
Woodwork and furniture exposed to contact with stove, heating appliances, and unprotected lights	1	44
	59	$63,838

(b) 1920

Cause	No. of Fires	Loss
Adjoining fires	7	$5,580
Ashes (hot)—careless disposal	1	582
Candle—carelessness	2	93
Chimneys, flues, stacks—defective or overheated	7	2,752
Cigars and cigarettes (lighted)—carelessly discarded	4	573

Cause	No. of Fires	Loss
Clothing and curtains exposed to contact with stoves, heating appliances, and unprotected lights	6	$621
Electric, flat, and gas irons—carelessness	4	409
Electric wiring—defective	4	17,399
Explosions:		
Alcohol, gas, and oil laps	2	29
Gas leak	2	92
Fireplaces—defective and overheated	4	284
Fireworks	1	30
Furnaces, heaters, stoves, and their pipes—defective or overheated	7	190
Fumigating	1	50
Lamps and lanterns—overturned	1	81
Lightning (no report as to rods)	3	315
Matches—careless use and keeping	3	658
Matches—children	4	313
Matches (lighted)—carelessly discarded	2	3,535
Miscellaneous	1	61
Sparks:		
Chimneys, flues, stacks, cupola	3	50
Fireplaces	3	18,887
Locomotive	1	75
Rubbish and brush burning	1	200
Undetermined	15	25,295
Woodwork and furniture exposed to contact with stove, heating appliances, and unprotected lights	1	221
	90	$78,375

(c) *First Six Months in 1921*

Cause	No. of Fires	Loss
Adjoining fires	1	$ 16
Candle—carelessness	1	1,703
Chimneys, flues, stacks—defective and overheated	1	7,500
Clothing and curtains exposed to contact with stoves, heating appliances, and unprotected lights	1	165
Electric, flat, and gas irons—carelessness	1	24
Electric wiring—defective	3	3,402
Explosions:		
Alcohol, gas, and oil lamps	3	144
Gas leak	1	38
Fireworks	1	133

Cause	No. of Fires	Loss
Furnaces, heaters, stoves, and their pipes—defective or overheated	2	$139
Matches—careless use and keeping	2	3,759
Miscellaneous	2	208
Smoking—carelessness	3	762
Smoking in bed	1	15
Sparks—chimneys, flues, stacks, cupola	3	3,838
Spontaneous combustion	3	292
Undetermined	11	8,822
	40	$30,960

The record is very good; but not one that gives promise of improving, or even holding its own, in face of the increase of population of the township, the increase in building construction, and the type of new building persistently appearing—two-family and multiple dwellings, stores and apartments, and combinations of these.

Fortunately these buildings themselves are practically confined to the fire limits established by the township building code and are subject to provisions of the code which materially reduce the risk of conflagration. But this type of development increases the density of population and with it the danger of starting fires and the dangers from fire when started; increases the number of potential rubbish piles and the quantity of litter; and adds to the fire hazard through the very proximity to each other of buildings which, though brick-walled or slow-burning, are not fireproof. Fire prevention needs to be somebody's principal job, and the somebody should be a competent specialist, giving all his time to it, and receiving the cooperation of the forces already in the township.

It is recommended therefore that the township commissioners appoint a properly qualified person to serve as fire chief and fire marshal. He should give full time to his duties and should be paid a salary comparable with that of a battalion chief in the Philadelphia fire department. His logical title would be chief of the Lower Merion Township fire department, but since the word "chief" is applied to the principal officer of each of the volunteer fire companies (whose logical title would be captain) it recommended that the title of the new position be fire marshal. The fire marshal should be given full authority and responsibility for fire protection within the township. He should be in supreme command of the fire-fighting equipment at all times and of the fighting forces at every fire and every drill. He should inspect the apparatus and the water service and be responsible for continual maintenance of standards. He and the superintendent of highways should be vested with the authority to locate and relocate fire plugs. He and the chiefs of the several companies should form a board which will be a real—not a paper—organization, for the cooperative working of the fire department. The selection of the incumbent for this new position will materially determine the extent to which satisfactory cooperation can be realized and friction entirely avoided. By choosing for the post, let us say, a battalion chief from a city fire department, who is a trained fire-fighter to whom the chiefs and men of the volunteer companies cannot help looking as a natural leader, and by appealing to the civic spirit of the companies, the commissioners can be reasonably assured of a successful reorganization.

Absolute teamwork at fires, and adherence to standards of equipment and service which the fire marshal and board of chiefs may recommend and township commissioners may establish, should be made a condition upon which volunteer fire companies shall receive future township appropriations. The fire marshal should also have responsibility for keeping down the fire hazards of the township, and for organizing such inspectional and educational work as may be needed for that purpose, using the membership of the fire companies, the township police force, the schools, and the many other resources that will occur to him. The draft of a suggested amending ordinance for the organization of the department on this basis is transmitted separately with this report.

Ratings and Insurance Rates

Lower Merion Township does not constitute a single district for underwriters' rating purposes. Parts of the township fall within several of the areas recognized by the underwriters as protected zones. According to last announced ratings, each of the protected zones lying in whole or in part within the township was listed as "Class B." These ratings are old, however, and are very soon to be superseded by new ones assigned as the result of a recent reinspection of the townhip, the report of which was referred to in a footnote on page 283. Under the new ratings, although they have not been made public, it may be said that all the protected area within the township may no longer be listed in the same class. It may also be stated that if the recommendations of this chapter regarding the reorganization of the department are carried out, and if certain other improvements, recommended by the underwriters, are effected, the cost to the township is likely to be offset, and perhaps substantially offset, by decreases in fire insurance rates in each of the township's protected zones.

CHAPTER VII

PARKS AND PLAYGROUNDS

Chapter XIX of the township code gives townships of the first class power to "improve, maintain, and regulate public parks, parkways, and playgrounds within the township limits." Power is conferred to "enter upon, appropriate, and secure, by gift, devise, purchase, lease, or otherwise, private property for the purpose of making, enlarging, and maintaining public parks, parkways, and playgrounds." It is provided, however, that no appropriation, purchase, or lease shall be made pursuant to the exercise of these powers whereby a township of the first class shall within any period of three years obligate itself to pay in the aggregate any sum exceeding one and a half mills on the dollar on the assessed valuation of all property, offices, professions, and persons in the township without the consent of the majority of the electors obtained at a municipal election.

The by-laws of the board of township commissioners give the playgrounds committee charge and general supervision over the township's playgrounds. As the township has no parks or parkways, no supervision over them is charged to any committee.

Playgrounds

In 1909, the township received from the estate of Algernon B. Roberts, who had been president of the board of township commissioners, a bequest of $10,000, which the board of commissioners was directed to expend "for the benefit of the people of Lower Merion who have honored me with their trust in the past and of whom I think so much." With this fund as a nucleus a program of acquiring playgrounds for the township was undertaken. To this was added $20,000 by contributions from citizens, and $20,000 more through the sale of township bonds. The following properties have been secured: a plot containing nine-tenths of an acre adjoining the Bala public school ground, at a cost of $10,500; a plot in Ardmore containing a trifle over three acres and bounded upon three of its sides by Greenfield Avenue, Spring Avenue, and Ardmore Avenue, at a cost of $14,500; a plot containing 1.477 acres adjoining the Bryn Mawr public school, at a cost of $13,200; and a plot at Gladwyne containing about 2½ acres at a cost of $5,000. The township now has a balance of slightly over $9,000 available for the purchase of additional playgrounds. This amount, less interest which has accrued from time to time, has been available for about five years. We understand that for a number of years the board of commissioners has been trying to secure playground space at Ashland Heights, but has been unable to negotiate a purchase on terms considered reasonable.

The playground at Gladwyne has no play paraphernalia. Those at Ardmore, Bryn Mawr, and Bala have the usual seesaws, sand boxes, swings, slides, etc. The Ardmore ground has a small baseball diamond, a basketball court, and two tennis courts. There is a basketball court at Bala, and Bala and Bryn Mawr each have a tennis court. The Ardmore and Bala grounds have rest houses and toilet facilities. At Bryn Mawr the school grounds adjoin the playground, and the school authorities cooperate with the playground committee by allowing the use of the school toilet facilities, and by giving storage room in the school for playground paraphernalia. The playground itself is not large enough for a baseball diamond, but the playground and the school ground together are ample for this purpose. Until recently men and older boys played baseball on these grounds, but because of complaints of neighboring property-owners the play has been prohibited.

School Play Facilities

The picture of the playground situation in the township becomes more complete with the inclusion of the grounds owned by the school district. At Ashland Heights the school grounds during the summer of 1921 were operated as a playground by the township. The township furnished swings and a tennis court. The Cynwyd school has large grounds containing, exclusive of buildings, about seven acres on which are laid out a running track and a baseball diamond. The Ardmore high school has a large athletic field containing a baseball diamond, running track, football field, and a number of tennis courts. There are also small play spaces at the Ardmore public school, Merion Square school, and the Bala school. The school grounds at Bryn

Mawr adjacent to the playground have been mentioned. Of the school grounds, those at Ashland Heights alone contain play equipment for children. The Ardmore high-school students have physical directors, and at other schools instructors are in charge of children during recess periods, but beyond this there is no provision made by the school authorities for guiding and supervising play and recreation.

Other Play Facilities

The Bryn Mawr Community Center and the Merion Community Center also afford some recreational facilities; those at Merion include large grounds, play facilities, and several tennis courts. The Autocar athletic field is for the exclusive use of the Autocar Company employes. There are numerous other private recreational facilities in the township.

Ideal Program of Facilities

Viewed from the standpoint of the play areas provided both by the township and by the school district, commendable progress has been made. A great deal, however, remains to be done. The ideal playground layout for the township would place within about a mile of every part of the more densely populated sections a community athletic field, with baseball diamond, football field, and basketball and tennis courts for the use of men and older boys and girls. Such an athletic field requires four or five acres at least. For children of about 12 and under, playgrounds are needed within half a mile, this apparently being the maximum distance which such children can or will go to reach a playground. For such grounds an acre is ample.

Those who study the subject now consider advisable in very densely settled communities a further provision, the children's corner for those aged about seven and under. For children of this age, play areas should be accessible within a quarter-mile radius. The distance may well be less where car tracks and much-travelled highways are to be crossed. Not much space is needed. A half-acre will accommodate 250 children with comfort. The children's corner should be provided with shade and with seats for parents or elder brothers or sisters. It should be equipped with see-saws, sand boxes, small swings, etc.

In working out such a plan, it is of course possible, with due protection to the youngsters from the games of older persons, to make provision at one place for the athletic field, playground and children's corner, or for any two of them.

How Township Facilities Measure Up to an Ideal Program

The township would probably consider that its need for children's corners is not very urgent at present. Interest in such a proposal will depend largely upon the extent to which it is thought that action now will forestall future difficulties. Such difficulties may not be remote possibilities. No farther distant than Philadelphia are hundreds of spots at which children's corners would now be considered god-sends, but where the cost of providing them now seems prohibitive, and the children are doomed to play in the streets with the automobile traffic that takes its daily toll of young lives.

As to playgrounds as distinguished from the children's corners and athletic fields, the accompanynig chart (VIII-1) indicates how the present facilities fail to measure up to the ideal. When circles half a mile in radius are drawn with the Bryn Mawr, Ardmore, Bala, and Ashland Heights playgrounds, and the Merion Community Center as centers, many thickly settled parts of the township are shown to be more than half a mile distant from a supervised and equipped playground. The grounds at Gladwyne, as has been said, have not had equipment or supervision.

Provision for athletic fields is somewhat better. Circles drawn with a radius of a mile, with the Ardmore high school and Cynwyd school as centers, cover about two-thirds of the area which needs especially to be covered. A third circle of equal radius, with the Bryn Mawr school grounds and playgrounds as the center, practically covers the other third. Unfortunately, this third circle cannot be drawn, since the playing of baseball has been prohibited on the Bryn Mawr grounds.

Should Playgrounds be Operated by School Management?

The citizens of the township should consider carefully the opinion held by many playground specialists that playground administration is more appropriately the duty of school than of any other authorities. Several considerations lend weight to the opin-

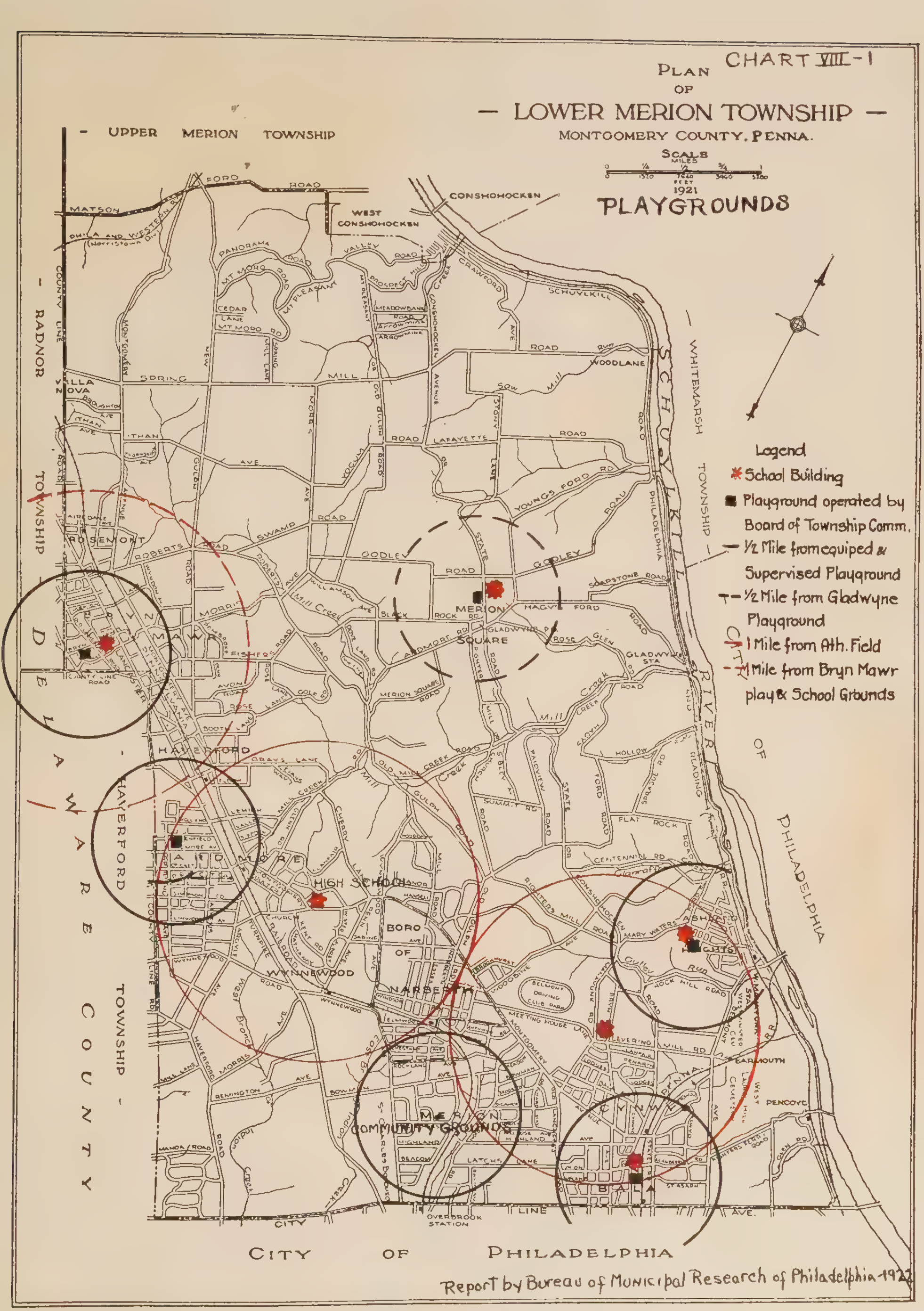

CHART VIII-1

PLAN OF
— LOWER MERION TOWNSHIP —
MONTGOMERY COUNTY, PENNA.

1921

PLAYGROUNDS

Report by Bureau of Municipal Research of Philadelphia 1922

ion. In the first place, it is felt that play and recreation are such essential parts of the education of the child that only by placing responsibility for them with the school authorities can they be properly co-ordinated with other branches of the child's education. For this reason, a play area is generally considered a requisite appurtenance of the school. In the second place, overhead expense is substantially reduced if the school ground is the playground as well, since it is unnecessary to duplicate for the playground the rest, toilet, and other facilities found in the school.

Although in the past in this country we have been none too careful in providing school play facilities (witness Philadelphia, in which 61 schools provide less than 10 square feet of play space per child), the modern schoolhouse is usually well adapted for use as an adjunct to the playground. Not only is care taken to provide ample grounds, but the school of modern design contains locker space, bathing facilities, and gymnasium equipment. A further reason for ample playground facilities as a part of the school grounds is that when the school session ends the children are already at the playground. Requiring them to go elsewhere frequently adds danger of accident. Close proximity of playground and school does not ordinarily interfere with school work, since the playground is not in use while the school is in session.

The township might benefit if the school authorities were to operate as playgrounds the areas adjacent to the schools, or, better, if some plan could be worked out to unify the administration of schools and all playgrounds, even those not adjacent to school buildings. Some of the schools, as already indicated, are generously provided with space; but there is need of supervision and guidance. If play is part of the education of the child, unsupervised play may just as readily be education for evil as for good.

We are informed that in the borough of Narberth, which is wholly surrounded by the township, a plan of cooperation has been worked out between the borough council and the school board for securing playground facilities. The electorate quite recently ratified a bond issue proposed by the council to furnish money for the purchase of the land and its improvement. The playground will be operated and maintained by the school board. The new playground will release ground used for play purposes near the present school buildings and permit the construction of a new building there.

Is Fencing of Playgrounds Advisable?

The township playgrounds at Ardmore and Bala, and a section of the Bryn Mawr grounds 90 x 120 feet, are fenced. The schedule for keeping these grounds open during the year 1921 was as follows: from about 3 to 6 P. M. from April 15 to June 15; from 9 A. M. to dark, June 15 to September 1; from 3 to 6 P. M. September 1 to November 15. The Ashland ground was closed September 1.

Fencing of playgrounds not infrequently meets with adverse criticism. A public ground to which the public is not admitted, and at the entrance of which prohibitions against trespassing are displayed, is regarded as anomalous. Further, it is doubtful whether the use of fences to teach children not to destroy and carry off public property is good pedagogy. Some weight must undoubtedly be accorded to these arguments. The education which would make fences unnecessary would probably involve strenuous and prolonged effort, but if successful, would be worth vastly more than the training in citizenship offered by fences, especially when, as at Bryn Mawr last summer, those who object to the fences climb them, break them, and even burrow under them. Then, too, the fact that a fence is a challenge to every healthy youngster is a matter of elementary psychology.

The township may not see its way clear to abolishing the fences. It should, however, be careful that the fences do not keep children out of the playgrounds at times when they would or could be induced to play in them. We have heard complaints that certain playgrounds have not been opened on schedule time. Nothing is more likely than this to discourage playground attendance. And there are evidences that the attendance is not encouraged to the extent that it might be. Observers report that frequently many children are on the streets literally looking for something to do, at times when nearby playgrounds are open.

It is also notable that the township playgrounds are not operated during the winter months. The wisdom of this may be questioned, since one of the great problems of health promotion today is to prevent the giving up of outdoor life at the approach of winter. A great many communities now make provision for year-round recreation. We are, of course, unable to say that it would be possible to maintain the attendance at a substantial figure during the winter months; but the key to this problem, just as with idle children on the streets during playground hours, is more than likely to be found in the management and supervision of the grounds.

Supervision of Playgrounds

In the 1921 season, one man and two women were assigned to the supervision of the Ardmore playground during the day. Two more women and another man served in the evening. Bryn Mawr and Bala each had one man and one woman. Ashland Heights had one woman during July and August. Among these supervisors were those whose devotion to their work and success in it have been the subject of the highest praise. This needs to be said in fairness. On the other hand, there are criticisms and complaints, which cannot be ignored, of lack of promptness and of failure to show the qualities of companionship and leadership which should form the chief equipment of the playground—its "lure." Whatever else the equipment, the playground will not be popular without this lure, and it must come principally from the play-leader. The problem of supervision, however, should be analyzed a step further to the question of general superintendence.

During the summer of 1920, the township employed a man to give general supervision to all the playgrounds. This man did not serve out the season, and in consequence the results do not seem to have been regarded as satisfactory. An effort was made to secure a full-time supervisor for the 1921 season; but the effort failed, and the duties of supervision devolved directly upon the playgrounds committee itself. The members of the committee would probably agree that the results were not altogether fortunate.

It is not difficult to find the source of the trouble. The selection of playground supervisors is not easy, and the problem is not solved by any means when the supervisor has been selected. The task is much the same as is found in the schools. Instructors with the requisite qualifications having been chosen, a superintendent must keep in touch with their work, check up on delinquencies, and be able to make helpful suggestions. Since it is unfair to expect the commissioners to have either the necessary technical knowledge or the time for this work, the situation seems to call, above all things, for the employment at least during the part of the year when the playgrounds are open, of a full-time general superintendent, thoroughly familiar with playground technique. With the assistance of such a superintendent, the commissioners should be able to effect great improvement in the situation.

Importance of Play Facilities

It is scarcely necessary to emphasize the importance of proper play and recreation in the development of the child. Play is nature's method of carrying the child from the helpless state at birth to the finished product. Neuro-muscular co-ordination, the response to stimuli, attitudes of mind—in short, the effective individual and the good citizen—are developed in play. Thwart and deny the instinct of play, and there is perversion, with the sickly, delinquent, and defective human as the result. Without useful, purposeful, and interesting occupation, the child is quite likely to fall into mischief, which is to say that he has at least experimented with the business of being a criminal. All these facts are now widely accepted, and are no doubt accepted in the abstract in Lower Merion Township. What may not be so readily accepted is that the inadequate number and extent of play areas calls for action.

Plan Now for the Future

The township now has, it is true, a great deal of open space; but it is not too early to give thought to possibilities for the future. The township is not an isolated community. It is part of a great metropolitan area and is nearer to the center of Philadelphia than some parts of the city itself. A circle drawn with the City Hall of Philadelphia as its center, and with the distance to the extreme northeast point of the city as a radius, would include most of Norristown. What this may mean some day can be learned from a study of Brookline, Mass., which bears practically the same relation to Boston as Lower Merion Township does to Philadelphia. The Brookline of 25 years ago has gone, probably never to return. In spots it remains a place of beautiful homes with extensive grounds; but the occupants of these homes are nervous over the approach of the "barracks," and the breaking up of large estates continues.

The exact course of the township's future development cannot be foretold with certainty; but one can picture without violent stretch of the imagination the time when the township may crave desperately for the open space of which it now has such an abundance. A thing which will to a large extent prevent this is the substitution of directed development for the mere drift of the present. As we have elsewhere in this report pointed out, there must be zoning and township planning. As part of this program, park and playground areas of the future should be acquired. The time to undertake such a program is now. Land in the township will probably never be cheaper than at present. Whether it is to be acquired now will depend largely upon how much the citizens are willing to penalize the future by present indifference. It is said that about a decade ago New York City paid more for 10 acres of down-town land than for the more than 500 acres in Central Park during the fifties.

"Wise planning and wise taking," it has been said, "humanize the present generation, and are one of the best insurances of a humanized quality in future generations."

Parks

The problem of establishing parks in the township has never been given very serious consideration. This is easy to understand, with the relatively high type of suburban development and the large tracts which are still only very slightly developed. The large number of automobiles, enabling many people to seek recreation in places outside the township, has also probably operated to make the need of parks less evident. Since it is not safe to assume, however, that parks will not be more necessary in the future, we are constrained to repeat the thought that the time to secure the necessary land is now, while it can be obtained in the desired locations more cheaply than after intensive development.

Certainly no residential section should be without park areas. Allotting a small percentage of the total area to parks really enhances the value of the remaining property. The township can accomplish much in convincing real estate developers of this if it exercises more control over property subdivision, as discussed previously in chapter III on Highways, section on Township Planning.[1] It is important in providing park areas to have a plan of desirable development by which to proceed.

The preceding discussion refers more especially to local parks which would provide minor breathing spaces in the built-up communities. The township also has an obligation, as a part of the whole metropolitan area of Philadelphia, to preserve and render accessible as parks the beautiful scenery within its boundaries. It might be to the mutual advantage of Philadelphians and of the township population if certain lands in the township could be linked up with the park system of Philadelphia.

Plans of this sort have frequently been advanced. The Mill Creek valley has been suggested as a park, possibly to be linked up with the Cobb's Creek valley. It is very desirable that thought should be given to the preservation of the Mill Creek valley. There are numerous roads now traversing this area, but there are few places where the visitor can get off the road itself and enjoy the wonderful beauty without trespassing on private lands. The present use of the Mill Creek valley, chiefly by large estates, is altogether consistent with the preservation of the natural scenery, and in fact conserves this scenery better than would the splitting up of the land into smaller parcels. It is most likely that the present condition might be conserved by agreement with existing owners to prevent the encroachment of future buildings in a manner that would be injurious. We would recommend that the property-owners be brought together to discuss the project of preserving the scenic beauty of the valley.

The entire subject of parks for the township is covered quite fully in a report made under date of December 31, 1919, for the Main Line Citizens' Association, by Frederick L. Olmsted and Arthur C. Comey, of Boston. By courtesy of the Main Line Citizens' Association we have drawn very freely upon their findings in the present report, and would suggest that the township commission give consideration to their recommendations.

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[1] See p. 135 *et seq.*

CHAPTER IX

BUILDING REGULATIONS

DRAFTING OF THE BUILDING CODE

The committee on building regulation is charged with the enforcement and supervision of the Lower Merion building code. The first code, known as Lower Merion building code of 1920, was adopted by the commissioners May 11, 1920, under authority derived from clause XXIII, section 381, of the township code—a clause added by the act of assembly of June 7, 1919. This code was superseded by the code of 1921, adopted December 27, 1921, which differs only in certain details from the first.

The question of establishing proper building regulations in the township was long agitated. Following the act of 1919, giving the commissioners of first-class townships the power to establish and enforce building regulations, the matter took more definite form. A committee of the Main Line Citizens' Association was appointed to prepare a building code. The township commissioners organized a committee on building regulations, and a series of conferences was held in the fall of 1919 and winter of 1920. Prominent architects, builders, and citizens interested in the housing problem attended these conferences, and the whole question was thoroughly thrashed out. An ordinance, based on the work of the Citizens' Association committee—modified as a result of these conferences—was considered by the committee on building regulations, and referred to the commissioners with a favorable recommendation. This ordinance was approved by the commissioners May 11, 1920, and became effective June 15, 1920.

GENERAL CONTENTS OF THE CODE

As the functions of the building regulations committee and of its executive, the building inspector, deal almost wholly with the administration and interpretation of this ordinance, it is well to comment here upon the scope of the code.

The two primary purposes that justify the regulation and restriction of building operations are public safety and public health. The greater part of the code is concerned with questions of safety; many of the sections deal with fire limits, fireproofing, strength of materials, and technical specifications which it is unnecessary to discuss in this report. It is sufficient to observe that these technical points have been covered in conformity with the judgment of competent engineers and architects.

Other sections, dealing with the location of buildings—set-back, yard space, window openings, etc.—are intended to insure adequate light and air, and thus to safeguard the health of the community. The code thus recognizes proper housing conditions as a vital community problem. It is, of course, a problem not capable of solution as definitely as the engineering questions involved in the strength and selection of building materials—so that opposition to or difference of opinion about these regulations is naturally to be expected.

It was the sections of the code of 1920 dealing with light and air spaces, and the location of buildings on their lots, which aroused the greatest antagonism, and which have been modified in the new code of 1921.

Zoning Should Supplement Existing Regulations

From another angle, it will be found that questions of structural safety and questions of light and air spaces and of the location of buildings on their lots do not constitute the whole problem of regulating and controlling buildings. The weakness of the code of 1921—as with that of 1920—is that it does not go beyond these two categories of subjects.

The problem can be solved only when we realize that the building code should include as a third essential factor the authority to establish fixed districts within which differing regulations for both the size and use of buildings may be enforced.[1] The present building code, except as it designates certain areas as fire districts, imposes identical restrictions throughout the township. If the more severe restrictions on the location of buildings and open spaces contained in the first code were made applicable only to designated areas, it is conceivable that much of the opposition to these restrictions might be overcome.

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[1] Limitation on the uses to which buildings may be put within a given district, it should be noted, is quite different from the control now exercised through the certificates of occupancy required by the code. These certificates do not deal with the suitability of the proposed occupancy for a particular neighborhood, but with the structural suitability of the building for the occupancy proposed.

The method of controlling and regulating building development by establishing a number of districts, in each of which the size or bulk of buildings, and the nature of their use, shall conform to a particular function of the community life, is known as zoning. There is now no authority in law for the enforcement of a real zoning or districting program in Lower Merion Township, and while the natural and unrestricted development of the township fortunately has not resulted in excessive concentration of building, or the construction of many buildings flagrantly misappropriate to their localities, it is nevertheless time that a study was made of the zoning problem, and steps taken to secure the authority necessary to put into effect whatever program may recommend itself to the commissioners as a result of such study.

Some municipalities of the state have already been granted zoning powers by the legislature, and a scheme worked out by the Philadelphia zoning commission is now under consideration in that city. The problem in Lower Merion is entirely analogous to that in some sections of Philadelphia; indeed, the future development of the township as a sector of the metropolitan area of Philadelphia is intimately bound up with that of the city itself, and no time should be lost in working out a plan for insuring the stability of Lower Merion as the premier suburban residential region of Philadelphia.

Frederick L. Olmsted and Arthur C. Comey, in a report to the Main Line Citizens' Association, under date of December 31, 1919, have very clearly analyzed the zoning problem confronting the whole Main Line district, and suggested a logical procedure for meeting this problem. We earnestly recommend to the commissioners a careful reading of the report. In their analysis of the Main Line district, the authors question whether it will permanently remain chiefly a high-class residential district. The availability of splendid railroad facilities, and the proximity to a great industrial center, are at least potential factors for converting this district into an industrial area. The development of factories, workers' homes, and incidental business enterprises might or might not ultimately reduce the property valuation of Lower Merion Township; it would certainly involve a tremendous readjustment of values, and the mere possibility of such a change in the township should point to the need of thoughtful study. We would urge that a comprehensive zoning plan be worked out for the township, preferably in collaboration with the neighboring townships of Haverford and Radnor and the borough of Narberth. This work need not wait until authority for zoning is secured from the legislature, but can go on in advance of or simultaneously with the effort to secure the needed authority.

The enforcement and supervision of zoning regulations, when established, might well be entrusted to the same branch of the township government that enforces building regulations. By the time zoning can become effective, this branch of the township government will have a thorough knowledge of the trend of building development, records of past construction, and an acquaintance with builders, architects, and contractors operating in this territory. With a view to gathering data that might be helpful to whatever body is ultimately to study the zoning problem, the building regulations committee in its supervision of building operations should study congested dwelling operations, intrusion of commercial and industrial buildings into hitherto residential neighborhoods, and similar developments, in the light of possible future control over these tendencies.

Procedure Under the Code

The building inspector is appointed by the committee on building regulations, and upon him rests practically the entire responsibility for the supervision, enforcement, and interpretation of the code. In addtion to his executive and administrative duties, there are conferred upon him the quasi-judicial functions of approving or disapproving plans and specifications; of deciding whether buildings conform in structure, equipment, or occupancy to the code and the regulations; of recommending to the commissioners prosecutions for infractions of existing regulations, or the enactment of new regulations. He is also given authority to assist in the inspection of fire escapes, etc., and the enforcement of certain state laws regulating them.

From decisions of the building inspector, appeal can be taken to the commissioners, under section 1903 of the code. This section provides, however, that the commissioners may refer any or all appeals to the committee on building regulations. This committee found early in its work that its enforcement of the code was being hampered by appeals from the decisions of the inspector to the board of commissioners, and so recommended to the board that thenceforth all appeals should be referred to the committee on building regulations, whose decision should be final. This recommendation was adopted by the commissioners in August, 1920; consequently the entire jurisdiction in matters pertaining to the code now rests with the building inspector and the committee on building regulations.

The code is very specific in setting forth the procedure to be followed with any building operation in the township, whether it be new construction, alterations or repairs, or merely the erection of signs or awnings.

The owner is required to file with the building inspector an application for a permit, on a form supplied by the inspector, verified by affidavit and accompanied by a fee based on the total floor area, together with two sets of plans and specifications, giving all information necessary to determine compliance with the code. If, however, the estimated cost is less than $1,000, detailed plans and specifications are not required. The building inspector must pass upon each application for a permit within fifteen days after its receipt, by either approving or rejecting it, or requiring modification in the plans and specifications. If the application is approved by the building inspector, the township secretary issues a permit, which lapses if active work is not commenced within six months from the date of issue.

The code also provides that no new or altered building may be occupied, nor the use or occupancy of any existing building changed, if the new occupancy would bring it under a more stringent regulation, until a certificate of occupancy shall have been issued by the township secretary.

Application for certificates of occupancy must be made to the building inspector, verified by affidavit and accompanied by a flat fee of $1, setting forth the occupation or use to which it is desired to put the building, and stating that the building complies with the provisions of the code. The inspector is required to pass upon each application for a certificate of occupancy within 10 days, either by approving, rejecting, or modifying it. Upon the approval of an application by the building inspector, the secretary issues a certificate of occupancy.

DUTIES AND RESPONSIBILITIES OF THE BUILDING INSPECTOR

The responsibility for administering these provisions of the code devolves almost wholly upon the building inspector. He has one assistant, is furnished with an office in the township building, and with a Ford car for field inspection.

To give a clearer picture of the normal routine of the building inspector's office, the procedure with a typical building operation will be set forth. The inspector must originally examine the application for a building permit and check the plans submitted. When a permit is issued and the work is begun, he must inspect the operation from time to time to see that the work is actually conducted in accordance with the plans and specifications for which the permit has been issued. The inspector is specifically authorized by the code (section 206) to stop any building operation found to be contrary to the provisions of the code, and to employ experts to pass upon any technical points in dispute. He therefore has very wide latitude in the supervision of building within the township, and the possibilities for the extension of his field duties are virtually unlimited. The inspector's final duty in the operation in question is to examine the application for a certificate of occupancy, and to determine whether, in the light of the facts therein stated, the proposed occupancy is compatible with the code.

OFFICE RECORDS

This analysis of the relation of the building inspector to a typical building operation gives an idea of the administrative problem confronting the inspector and his office. The problem is two-fold, involving in the office a system of filing and checking of records, issuing of permits and certificates, and preparation of reports for the building regulations committee; and in the field a systematic series of inspections.

The filing problem of the building inspector's office is of paramount importance. The office record of each job comprises two printed application forms (for a permit and for a certificate of occupancy), a set of plans and specifications, and two stubs (one in the permit book, the other in the certificate-of-occupancy book). There will also be correspondence and notes of inspections. Obviously, in order to render all this information readily accessible and to enable the inspector to keep track of the status of building operations throughout the township, there should be devised an efficient system of filing, indexing, and cross-reference for all the documents comprising this record.

The system of record keeping now in use is somewhat confused. Applications for permits are not numbered when filed, but are held open until they have been checked over and approved by the inspector, and a permit issued. The permits are consecutively numbered and bound, with stubs. When a permit is issued the application is given the same number, and filed by this number. If the application is rejected, or sent back for modification, no record is made in the files. To be sure, most applications are checked over with the applicant when presented; and if they are in order, permits are issued forthwith, but this practice can hardly be continued if there is any great increase in the work of this office. Plans, however, are given a number when received, rolled up, and filed numerically in a rack. There is no reason why each set of plans should not be given the same number as the application filed with them. The fact that some applications are not accompanied by plans would simply mean that there would be some gaps in the serial numbers of plans.

Applications for certificates of occupancy are treated like those for building permits; that is, they are not numbered until approved, when the certificates are issued, and the applications given the same number. As the certificates of occupancy are also consecutively numbered and bound with stubs, there are three separate sets of serial numbers covering the records of most operations—those of the plans, permits, and certificates of occupancy. The permits are indexed by recording in a bound book the number of each permit as issued, the date, location of the property, and the numbers of related records. These entries are grouped by election districts, or wards, and ruled off each month. Correspondence is filed with the applications, and the only record of current inspections is in a diary kept by the inspector in which he notes the day's field work.

To simplify this procedure, and to insure the concentration of all records and information relating to a particular piece of property, we suggest the keeping of a master card-record of every property coming under the supervision of the building inspector's office. Inasmuch as applications are variously made in the name of the owner, agent, builder or lessee, dependence upon an alphabetical system of filing or indexing is likely to lead to confusion. The master record should therefore be kept on cards geographically filed. Each card should bear at the top the location of the property involved, the name of the street, and number or distance from a cross street. These cards should first be grouped into wards, and filed within the ward by street names, alphabetically arranged.

Each master card should have in the upper right-hand corner a space for the serial numbers of the following records: application, permit, application for certificate of occupancy, certificate of occupancy, with the date of filing or issuance of each. Under the location record should appear the names and addresses of the applicant, the owner of the property, the contractor, and the architect. This should be followed by a brief description of the work proposed, and the rest of the card left for notations of inspections and remarks.

A master file containing this information will enable the inspector readily to ascertain the exact status of any building operation for which an application for a permit has been made. Applications, permits, and certificates can be numerically filed as at present, and, from the geographical location of the job, quickly found by reference to the master file. To facilitate the work of inspection, a duplicate card should be made for each application involving an inspection. These cards should be sorted according to the date on which each job should next be inspected, grouped with reference to the location of the jobs, and filed in a tickler, by dates. This will enable the inspector to take from the tickler each day a number of cards showing the inspections to be made, geographically grouped, thus simplifying his routing in the field and automatically bringing to his attention the jobs most in need of inspection. The results of the inspection can be noted on the duplicate cards in the field, and also the date for the next inspection. Upon his return to the office, this information can be transferred to the original cards in the master file, and the duplicates put back in the tickler under the date for the next inspection.

Upon the filing of an application for a building permit, it should be given a serial number and put in a heavy folder bearing this number. Into the same folder should be put the plans (if any), and all notes and correspondence pertaining to the operation. The folder should then be filed numerically in a filing drawer. When the job is completed and an application for a certificate of occupancy is made, this application should be given the same number and be filed in the same folder. All the records of each job will thus be kept together (except the stubs of the permit and certificate books, which can be numbered consecutively without regard to the application numbers), and when any question arises the proper folder can be quickly located by reference to the geographical master file.

Should an application for a certificate of occupancy be made necessary under the provisions of the code dealing with changes in occupancy, where no construction is involved, and no previous record of the property has been made in the office of the building inspector, the application should be given the next consecutive serial number, just as though it were an application for a building permit, and filed in like manner. The usual master card should be made out, reference to which will quickly show that there are no previous records of the property. The master file will thus contain a record of every property that is brought in any way under the jurisdiction of the building regulations committee, and the information thus accumulated will prove of increasing value to the township.

DIFFICULTIES ENCOUNTERED

Having looked into the general provisions of the code and examined the routine operations of the building inspector's office, it might be well now to cite a few of the difficulties that have been encountered in administering the code. Almost simultaneously with the enactment of the building code, an incident occurred that illustrates very clearly a practical difficulty likely at any time to be encountered when the attempt is made rigidly to enforce a new ordinance so sweeping in some of its provisions as is the code. The owner of a property in Bryn Mawr decided to build a frame stable and garage on his lot, and called on the building inspector for a permit. The inspector informed him he was not yet ready to issue permits, but advised him to prepare plans and to call again. The inspector further advised the applicant that the atlas seemed to show only a small corner of his lot within the fire limits, and that the proposed building would probably escape the restrictions of that area. Later the inspector found that the construction of the building was well under way, although no permit had been issued, and advised the owner to discontinue the work until the fire limits could be located on his lot. A surveyor was called in to lay off the boundary of the fire district, and found that it cut through the front and rear walls of the stable. A plan showing the situation was then prepared and submitted to the building regulations committee, which ruled that since a part of the building was within the fire limits the whole must conform to the ordinance. The matter then dragged for several months, during which time the stable was completed. No action, however, was taken by the owner, and finally the committee declared that part of the stable within the fire limits a nuisance, and ordered the owner to remove it before a fixed date. A letter from the owner's attorney introduced further delay and the dispute is still unsettled.

This incident shows the difficulties of enforcing the letter of a law suddenly imposing rigid restrictions where complete freedom has previously prevailed. The inspector and the committee earnestly endeavored to do their full duty in enforcing regulations entrusted to their supervision. All parties concerned were without experience in the practical workings of so highly detailed and novel a piece of legislation as the building code. Time and energy would perhaps have been saved had the proximity to the fire limits been overlooked.

The incident also illustrates a type of problem likely to recur in the administration of the code, unless the fire limits as therein defined are amended. Drawing an arbitrary line parallel to a highway and 200 feet therefrom, with no regard to existing buildings, property lines, or roads, and legislating that fire-proof construction must be used on one side of the imaginary line, and need not be on the other, must inevitably lead to disputes. It would seem well worth while to make a careful study of the fire-limit areas, with a view to redrawing the boundaries to conform if possible with existing roads, or where this is not feasible, to follow existing property lines.

Another property-owner erected a frame shed on Lancaster Avenue, wholly within the fire limits. The inspector and the building regulations committee stood firmly on the provisions of the code; and after the owner had failed to appear at a hearing, by resolution declared this frame structure a nuisance and gave notice that if the owner did not remove it by a fixed date the township would do so. The chief of police read the order to the owner, who failed to comply with it, so the building was removed by the township at a cost of $7.50.

In other disputes that have arisen, a more liberal interpretation of the code has finally prevailed. For example, an application for a permit to erect new buildings on Lancaster Avenue, Bryn Mawr, was refused because of insufficient space between the wings in the rear of the proposed building. The owner took an appeal from the decision of the building inspector. The building regulations committee overruled the appeal; but later the owner filed another application calling for a spacing still insufficient for the requirements of the code. The inspector, with several members of the building regulations committee, inspected the operation and decided to grant a permit, with the notation "Exception granted 3/17/21."

Again, in December, 1920, following a fire that damaged the roof of the inn at Ardmore, the committee ruled that the undamaged parts of the roof need not be rebuilt of fire-proof materials.

These examples indicate the importance of the quasi-judicial functions given to the building inspector and the building regulations committee by the code. The code does not authorize any administrative official, or the building regulations committee, to grant exceptions to any of its specific provisions; yet it is obviously impossible to enforce the ordinance with an absolute straight-edge. It might perhaps facilitate the administration of the code if discretion were given the building regulations committee to grant exceptions. On the other hand, this might be taken as an invitation to builders to seek exceptions for their own convenience, with a resultant weakening of the effectiveness of the code.

The provisions of the code for certificates of occupancy cause a good deal of annoyance, and the building inspector is experiencing difficulty in keeping up to date with the issuance of these certificates. Owners of buildings resent their having to make another application—and pay another dollar to the township and 50 cents to a notary when their buildings are completed. As one owner indignantly exclaimed, "What! Do I have to pay another dollar to live in my own house?" It would seem that where an application for a certificate of occupancy is required upon the completion of a building operation for which a permit has previously been issued, the fee paid for the permit might well cover also the certificate of occupancy. Even if the fees for permits were raised $1, there would be little or no objection. It is the extra "touch" at the end, after the job is all finished, that hurts.

The notary's fee of 50 cents for taking the affidavit required on applications, either for building permits or for certificates of occupancy, could be eliminated if notarial service were furnished free, as is done, for example, by the federal government in the filing of income-tax returns. This would make for readier and more cheerful compliance with the code. One owner, after much discussion, finally sent in an application and with it a dollar bill—but absolutely refused to pay the notary's fee. The dollar bill has been in the possession of the inspector now for many months, and the certificate is held up for lack of the affidavit.

Building Operations Since 1920

The reports of the building regulations committee show that for the remainder of 1920, after the code became effective in June, permits were issued for 183 building operations, the estimated cost of which was $862,000. In 1921, permits were issued for 569 building operations, the estimated cost of which was $2,718,000—over three times the amount for the last half of 1920. Moreover, about 20 per cent of the estimated cost for 1921 was on permits issued during the last two months, so that there is every indication of a rapid rise in building activities in the township. It would perhaps be well for the inspector to plot this curve from month to month, so that the building regulations committee may be enabled to anticipate the growing needs of this department.

Of the building operations of 1921, the construction of private dwellings is by far the largest item, with an aggregate value of $1,267,000, or nearly 50 per cent of the total. Alterations and additions amounted to $400,000; various combinations of stores and dwellings aggregated $340,000; twin dwellings $100,000; and private garages $200,000. It will be observed that 70 per cent of the total estimated cost of building operations for the year was for the construction of new buildings, intended wholly or partially for residences, and private garages. This figure would be higher, but for the considerable amount of alterations and additions not included in the total for residential construction, and for a marked increase in business buildings.

It will also be noted—and to this figure we would especially call attention—that only 74 per cent of the total new construction for dwelling purposes, exclusive of garages, was for single, detached, purely residential buildings. The other 26 per cent represents twin dwellings and various combinations of stores and apartments. The tendency to increase the number of dwellings of these types is a normal one in a community that has reached the present stage of development of Lower Merion Township. It is, however, a tendency which if left to develop without regulation may eventually destroy much of the present charm of the township as a place for single, detached residences. A well-planned zoning program would permit the normal growth of dwellings of the several classes, but would confine them to suitable districts where they would not be detrimental to neighborhoods given over to strictly detached residences.

SUMMARY

We have dealt in considerable detail with the administration of the building inspector's office, because the enactment of the first code, in 1920, established a wholly new field of governmental activity in the township, and there was no precedent to guide the development of the administrative routine necessary to carry the code into effect. Furthermore, building activity was at a low ebb during the first year after the passage of the code. The system of office records and field inspection developed under these conditions will, in our judgment, soon prove inadequate to handle efficiently the work of this department if building activity continues to increase as indicated by the reports of the last few months. We have accordingly made some suggestions for the filing of records and systematizing of field inspections which we believe will prove helpful in the administration of this department.

The present building inspector and his assistant are most courteous in their dealings with applicants for permits, and are conscientiously endeavoring to administer the somewhat complex provisions of the code with fairness alike to the building public and to the spirit of the code. They have an intelligent grasp of their problem and a realization of its probable growth with the increase of building activity. The extent of this increase cannot be accurately predicted; but it seems likely that within the year the personnel of the department may have to be increased.

The enactment of a building code for the township has very successfully accomplished its primary purpose of controlling the methods and materials of building construction and of preventing uses of buildings incompatible with their structure and equipment. The establishment of the code does not, however, afford to the township any control over the adaptation of the use and size of buildings to the locality in which they are situated. This control can be secured only by a zoning ordinance, the enactment of which must be preceded by thorough study and by a grant of power from the legislature. We believe the time has come for the commissioners to undertake this study and to seek the power necessary to enforce a zoning program.

CHAPTER X

LAW COMMITTEE AND TOWNSHIP SOLICITOR

The Law Committee

The law committee and the solicitor give special attention to the township's legal affairs. The by-laws give the law committee "charge and general supervision over the legal affairs of the township." It is understood that this committee, although its appointment was provided for in the by-laws a number of years ago, has not been active except during the last two years. No minutes are kept of its meetings and the only record of its proceedings is found in its annual reports for the years 1920 and 1921.

The major activities of the law committee, as shown by the 1920 report, were six: It (1) drafted amendments to the by-laws of the commission; (2) cooperated with the solicitor in the Springfield Water Company litigation; (3) considered the advisability of enacting an ordinance regulating the parking of automobiles; (4) worked on legal phases of the issuing of bonds for highway purposes; (5) represented the township in the Pennsylvania State Association of Townships of the First Class, an organization formed to encourage beneficial changes in the laws affecting townships of the first class; and (6) cooperated with a commission appointed by the governor to consider county taxation and to frame recommendations to the legislature.

The first four of these subjects are, of course, quite appropriately referable to a law committee, where such a committee is in existence, although such activities do not require a law committee where the services of a solicitor are available. In our judgment, however, functions such as (5) and (6) are of great importance and alone justify the existence of a law committee. The committee's report for 1921 shows that further opportunities for the same kind of useful service were not lacking. This report states that from the early part of the year until the adjournment of the legislature, the committee was in constant conference with the solicitor and commissioners of Lower Merion Township and other townships of the first class with a view to securing needed legislation; that members of the committee appeared before legislative committees and sub-committees in Harrisburg and in conferences with numerous officials of the state government. The committee states that much desirable legislation was secured by these efforts and that a number of undesirable acts were successfully opposed.

THE TOWNSHIP SOLICITOR

The by-laws of the board provide that—

> the Township Solicitor shall be elected by a majority vote of the Board to serve for the term of one year, beginning February 1st. He shall act as the legal advisor of the Board, represent the Township in all legal matters and perform the duties and have the authority usually incident to the position of Solicitor for a municipal corporation.

Basis of Compensation

The township solicitor is appointed by the board of commissioners. For the basis upon which he is compensated it is not possible to refer to any definite agreement. The practice is to pay the solicitor an annual retainer which for a number of years has been $500. This retainer pays for all legal services excepting those involving an unusual amount of labor. At present there are only two such exceptions. Extra fees are charged for litigation involving a substantial amount of work, such as the recent controversy with the Springfield Water Company, and for work on bond issues, precedent for the latter having been established when the 1921 highway bonds were issued.

By act of assembly, a fee of $3 is allowed to attorneys-at-law for every suit prosecuted to judgment, discontinuance, or non pros. These fees, when collected by the solicitor in township litigation, are paid directly to the solicitor by the unsuccessful litigant, and do not pass through the township accounts. The solicitor states that from January 1 to December 16, 1921, the amount received in this way was $69. Other attorneys' commissions, payable by the unsuccessful litigant, are allowed by law in certain proceedings for the filing and collection of liens; but the solicitor states that no such proceedings have been instituted by the township of Lower Merion in recent years.

Comments on Basis of Compensation

As a general proposition, an arrangement such as exists between the township and the solicitor might be adversely criticised for its flexibility, and for the uncertainty as to what the township will be called upon to pay within a given period for its legal services. Two considerations, however, seem to justify the present arrangement. The first is purely personal. The working relations between the solicitor and the township officers are most harmonious, and there seems to be widespread confidence in the ability, integrity, and public spirit of the solicitor. From our observation, the work done and the results obtained indicate that the solicitor is far from overpaid.

The second consideration is the uncertainty which exists as to the amount of service the solicitor will be called upon to render. The routine legal work of the township is fairly constant in volume, and a fixed retainer for which the solicitor will be able to do it can be agreed upon in advance without difficulty. It is impossible, however, to predict the exceptional work, or the amount of energy needed to carry it to a conclusion. If it were necessary to determine in advance a retainer which would protect the solicitor for all possible services he may be called upon to render, a large element of speculation would be introduced in arriving at his compensation, and in the long run the township quite probably would pay considerably more for its legal services than it now pays.

It is interesting to know, however, that an act of assembly approved May 26, 1921 (P. L. 1171), provided that the compensation of borough solicitors "shall be by annual salary, the amount of which shall be fixed at the time of appointment, and shall be in lieu of all and any other compensation whatsoever." It is probably fortunate that Lower Merion Township is not thus rigidly bound by law.

Other Legal Services

It should be mentioned that the township at times pays fees to attorneys other than its solicitor. This becomes necessary where litigation is conducted in jurisdictions in which it is advisable to retain local counsel. Also, the securing of an opinion on the validity of bond issues from an attorney who specializes in such work is considered a step necessary to insure the marketability of municipal bond issues. The fee for this opinion is sometimes paid by the purchasers of the issue, and sometimes by the municipality itself. The common, if not the almost universal practice in Pennsylvania, is for such fees to be paid by the successful bidders.

The practice in Lower Merion Township has been for the township itself to pay the fee. In the opinion of many, this practice is unlawful if the amount bid for the bonds, minus the fee, is less than the par value of the bonds. The commissioners, therefore, might do well to consider the advisability of conforming with the general custom of having purchasers of the bonds secure the opinion as to their validity. The service rendered by the bond attorney is, of course, of a kind entirely distinct from the work done by the township solicitor in the preparation of bond issues.

THE ORDINANCES

While the legal affairs of the township are under discussion, it may be appropriate to call attention to the fact that the records of ordinances passed by the commissioners are, or were until quite recently, in very unsatisfactory shape. The ordinances when passed were usually in typewritten form. The practice was to transcribe the original draft into an ordinance book. The original draft was then destroyed and the copy in the ordinance book was considered the official copy. At the time of our first inspection, late in September, 1921, it was noted that since January, 1917, no signatures of the president or vice-president had been affixed to ordinances in the ordinance book, nor had there been any attestations by the secretary.

At our next inspection, early in 1922, it was found that the president of the board of commissioners had affixed his signature to ordinances in the ordinance book passed at meetings over which he had presided. Signatures were still lacking, however, to a number of ordinances which seemed to have been passed by the board of commissioners when the vice-president was in the chair, and the attestations of the secretary were also frequently missing.

Prompt Signing and Attesting Necessary

The by-laws of the board of commissioners provide explicitly that ordinances shall be signed by the president or vice-president, and attested by the secretary. As the minutes of the board seldom recite more than the titles of ordinances passed, it is manifest that circumstances could easily arise which would put the township to the embarrassment of being unable to prove the authenticity of the text of an ordinance. Affixed to ordinances passed for some time prior to January, 1917, there appears in the ordinance book a rubber-stamp signature of the then president. This illustrates the point, as the explanation given for the rubber-stamp signature was that the illness and death of the president had made it impossible to secure his signature to a number of ordinances passed while he was in office. The injury recently suffered by the secretary illustrates the same point.

The president, vice-president, and secretary should of course comply, as promptly after the passage of an ordinance as possible, with the provision of the by-laws requiring signature and attestation. The copy which is signed and attested will be the official copy, and should be guarded from loss, theft, fire, and damage incident to frequent handling. For this reason it does not seem advisable to continue the use of the official copy for general office purposes. We understand that the township secretary recently adopted the practice of having the official draft distinct from the copy in general use. It is not necessary, of course, that any but the official draft contain a personally affixed signature or attestation. Some labor can probably be saved by making carbon copies for general use at the time the official draft is typed.

CHAPTER XI

PERSONNEL

The Importance of the Township's Personnel Problem

During 1921, Lower Merion Township had on its pay-roll about 125 workers, almost half of whom were permanent employes. Its total expenditure for personal service in 1921 was approximately $111,500, or slightly over 25 per cent of its income for the year.

In view of the variety and extent of the activities in which the township government is engaged, it cannot be said that either the number of employes or the annual pay-roll is at all excessive. It should be emphasized, however, that in an organization whose principal function is to render a service rather than to produce a commodity, more than usual importance attaches to the morale and the efficiency of the working force. If these are not maintained at a high level the taxpayer will fail to get the quality of service to which he is entitled.

In any organization, particularly in a small one, the leadership and inspiring force of the executive head are of great importance in developing and maintaining morale and efficiency; but these are by no means the only factors to be taken into account. The employment policies and processes in vogue in the organization, and the conditions under which employes are required to work, are at least equally important.

There are many specific phases of the personnel and employment problem to which attention must be given. Among these are the initial selection of employes; the methods of promotion; adequacy and fairness of compensation; hours of work; vacations, holidays, and sick leaves; the relation of employes to politics; discipline and dismissals; and provision for retirement. Upon the proper handling of these various phases of the problem are dependent in large measure the morale and efficiency of the working force.

The purpose of this chapter is to describe briefly the employment policies and practices, and the working conditions, which now obtain under the government of Lower Merion Township, and to suggest ways of improving them.

General Description of the Township's Service

It will aid us materially in our understanding of the township's personnel problem if we obtain at the outset a general idea of the service. This probably can be best accomplished by means of a classification of the various offices and positions according to vocational lines and the manner in which these offices and positions are filled. The following is such a classification, based on conditions in October, 1921:

1. Officials elected by the people:		
Commissioners	13	@ $60 per year
Treasurer	1	Compensation in fees
Assessors[1]	2	@ $800 per year
2. Officials elected by the board of township commissioners for a term of one year:		
Chief of police	1	@ $2,500 per year
Secretary	1	@ $3,500 per year[2]
Secretary, assistant	1	@ $2,400 per year
Superintendent of drainage	1	@ $2,200 per year[3]
Superintendent of highways	1	@ $4,000 per year
Township solicitor	1	@ $500 per year
3. Officials appointed by the president of the board of township commissioners:		
Members of the board of health for five-year terms	5	No compensation
4. Officials appointed by the board of health for term of one year:[4]		
Health officer	1	@ $2,500 per year
5. Officials and employes appointed for indefinite terms:		
On salary basis:		
Building inspector	1	@ $2,700 per year
Chief engineman	1	@ $1,800 per year
Clerk, junior	1	@ $600 per year[5]

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[1] Paid by the township as assistants to the secretary.

[2] Includes $2,400 for services as secretary to the board of township commissioners and $1,100 for services as secretary to the board of health.

[3] Includes $1,800 for services under the health and drainage committee and $400 for services under the board of health.

[4] The board of health also has designated the secretary to the board of township commissioners to act as secretary to the board of health. In like manner the superintendent of drainage is designated as plumbing inspector.

[5] Salary increased to $780 in 1922.

Clerk-typists	1	@ $1,000 per year
	1	@ $1,200 per year[6]
Engineering inspectors	3	@ $150 per month
Enginemen	6	@ $1,500 per year
Foremen	3	@ $1,500 per year
	2	@ $1,200 per year
	1	@ $960 per year[7]
Janitors	1	@ $1,200 per year[6]
	1	@ $780 per year
Patrolmen	8	@ $1,500 per year
	8	@ $1,380 per year
	16	@ $1,320 per year
Playground instructors	1	@ $100 per month
	2	@ $90 per month
	4	@ $85 per month
	1	@ $65 per month
	3	@ $60 per month
	1	@ $30 per month
Rodman	1	@ $100 per month
Sergeants	3	@ $1,600 per year
Assistant superintendent of highways	1	@ $2,700 per year
Turnkey	1	@ $1,200 per year
On wage basis:		
Laborers	October, 1921—42	@ $4.05 per day
Truck drivers (including trucks)	October, 1921—6	@ $15 per day
Roller enginemen	October, 1921—2	@ $6 per day

In this chapter our concern will be almost entirely with the fifth group, *i. e.*, the officials and employes who are appointed for indefinite terms.

The Location of Employment Control

Before passing on to the more specific phases of the employment problem of the township, it is important to note where control in employment matters is now located. As is true of most corporate organizations, this control is not located in any one place. Its distribution, however, is not of the usual kind. Under the committee system of government now in vogue in Lower Merion Township, the executive heads of departments have been permitted to exercise only a small measure of the authority in the appointment, transfer, promotion, and removal of employes that such executives customarily exercise in most other corporate enterprises, both public and private. The committees themselves have to a considerable extent absorbed this authority. The appointive heads of departments can merely advise the committees what shall be done; they cannot act directly in employment matters without instructions from the committees.

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[6] Combined salary paid in part from the appropriation for administration and in part from that of the board of health.

[7] Position vacated by death of incumbent in February, 1922.

All actions of the committees, however, are subject to the approval of the board of commissioners. This is largely, but not entirely, a legal formality. No committee, for example, can itself remove an employe, although it may suspend him. The board alone has the power of final removal. In like manner, no adjustment in compensation can take effect until the board has acted.

To this general procedure there is one exception. Laborers on highway work are not appointed by a committee, but are employed directly by the various foremen. They are also dismissed at pleasure by these foremen. The rates of pay of highway laborers, however, are fixed by the board.

From the foregoing it will be observed that employment control is distributed among four different agencies and officials—the board of commissioners itself, the various committees, the appointive executive heads, and the foremen on highway work. Of these four agencies, the committees appear to exercise the greatest degree of actual control. There is, however, no one agency or official whose business it is to give systematic attention to employment matters in general. There is no one who is expected to view the personnel problem as a whole. It is no one's business to formulate general employment policies and to make recommendations to the other officials and bodies concerned with various phases of the employment situation. No one even keeps centralized employment records. The board, to be sure, is the focal point for the ultimate settlement of all questions of employment policy; but this body has too many other affairs to deal with to give employment matters the attention they require.

During and after our consideration of the more specific phases of the township's personnel problem, further attention will be given to this general aspect.

The Selection of Employes

The first specific phase of the employment problem is the initial selection and appointment of employes. Let us begin by examining the present practice and then proceed to the consideration of possible improvements.

The general procedure in making appointments is as follows: Whenever a vacancy occurs or a new position is to be filled, members of the board of township commissioners usually recommend candidates to the committee under whose jurisdiction the appointment is to be made. The superintendent of the department, too, may make recommendations; but in most of the departments the more usual course is to have prospective workers proposed by commissioners themselves. The actual appointment is made by the committee, acting through its chairman, and subject to subsequent approval of the board.

In the course of this procedure, the applicant for employment undergoes an informal inquiry into his fitness. He is usually asked to write a letter either to the superintendent or the committee setting forth his training and experience; but he is not required to fill out a formal application blank. If he is an applicant for the police force, and appears in a general way to be suitable for the work, he is kept under surveillance for a brief period by the chief of police and the sergeants, and on the impression of him thus gained he may be appointed. Concerning the character and fitness of applicants for other positions, informal inquiries may be made of their previous employers. No standard tests of skill or mental capacity are given to any class of applicants. Neither are there any standard minimum qualifications that applicants are required to meet. In the police department, it is true, no applicant may be employed who drinks intoxicating liquors or who has been convicted of crime; but more positive standards than these are not required even of policemen. Physical tests, also, are limited to applicants for police work and are made without the guidance of standard requirements prescribed by the department. The examining physician is designated by the chief of police and is paid a fee by the township of $2 per examination.

Laborers on highway work, as we have already indicated, are employed directly by the various foremen without the intervention of the committee or the superintendent.

The practice just described, in our opinion, could be improved. In the first place, it doubtless would make for better administration if more authority in appointments were exercised by the superintendents of the various departments, and less by the committees and the board. The ideal would be not to have either the board or the committees concern themselves at all with the selection and appointment of workers below the rank of superintendent. This arrangement would facilitate the separation of policy-determining functions from purely administrative functions. In a private corporation it would be regarded as exceedingly bad practice to have the board of directors or committees of this board participate in the appointment of employes in the various departments. It is recognized, however, that under the government of Lower Merion Township, the board of commissioners and the committees exercise authority in subordinate appointments merely as a part of their general exercise of authority in administrative affairs.

Until policy determination and administration are completely separated under a plan of centralized administration, as suggested in chapter XIII, there is always likely to be a tendency for the committees to take a hand in the selection of employes. Nevertheless, it would be both possible and desirable in the meantime to reduce the authority exercised by the board and the committees, and to increase correspondingly the authority of the superintendents. The chief of police already has made himself the determining factor in selections, although legally he has no more power than other executive heads. In order to hasten this transfer of authority, it is recommended that the by-laws of the board be amended so that superintendents will have full power to appoint their own subordinates without approval of either the committees or the board.

In the second place, improvements can be made in the methods of ascertaining an applicant's fitness for the job. The present practice of having prospective employes set forth their training and experience in an informal letter is not entirely satisfactory. It would be far better to have them furnish this information on application blanks designed for the purpose. These blanks should call, among other things, for the following information:

1. Name of applicant.
2. Residence.
3. Date of birth and age.
4. Whether or not a citizen of the United States.
5. Position applied for.
6. Education.
7. Record of employment for last five years, including names and addresses of previous employers, dates of beginning and end of employment for each employer, description of each position occupied, and compensation received.

These application blanks would be a convenience to both applicants and administrators and would be more likely than an informal letter to bring out the facts necessary for appraising the relative fitness of prospective employes. We are glad to report at this writing that the secretary's office has recently designed an application blank and expects soon to put it into use.

The present practice of communicating with previous employers should be continued and made more thoroughgoing. When an employer cannot be interviewed personally or by telephone, a letter should be written to him asking for his confidential statement regarding the applicant under consideration. For this purpose a form letter might be used.

It would be desirable also to extend the practice of physical examinations now in vogue in the police department to all other departments. This would not only throw an additional safeguard about the efficiency of the service, but would protect the township from having forced upon it unnecessary burdens under the Workmen's Compensation Act. Should a pension plan be adopted, physical examinations would become even more imperative. In order to centralize responsibility, all departments should use the same medical examiner, who should be designated by the board of commissioners. Not only should the practice of physical examination of applicants be extended, but also it should be improved by furnishing the medical examiner with standard minimum requirements applicable to each of the various classes of employment under the township.

Without doubt the selection of employes would be still further improved if standard qualifications for appointment were formulated for the entire service. These standards, however, will not accomplish their purpose to any great extent unless they are administered by a central examining agency. This brings us to the consideration of civil service. In our opinion the personnel problem of Lower Merion Township is not large enough to warrant the overhead expense of an independent civil service system, but it would be a great boon to the township to have extended to it the service of an examining body having more than township jurisdiction. Our recommendation, therefore, is that the officials and citizens of Lower Merion Township unite forces with other groups in an effort to secure the enactment of a state-wide civil service law, under the provisions of which the examining facilities of the state may be made available for the township.

The Promotion of Employes

Employes are promoted by the same authorities that control original appointments, *i. e.*, by the various committees, subject to the approval of the board. The executive heads of departments can merely advise the committees.

Here again we would recommend that both the board and the committees relinquish their control and permit the various department heads to make promotions below the rank of superintendent or department head. Promotions to the rank of superintendent or department head, however, should be made by the committees and the board.

The Compensation of Employes

In considering the compensation of township employes, we need to take into account (1) the adequacy of the salaries and wages paid, and (2) the fairness with which the total pay-roll fund is distributed among the individual employes and classes of employes.

There are three different standards by which the adequacy of salaries and wages may be tested, namely:

1. By comparing the increase in compensation since the outbreak of the world war in 1914 with the increase in the cost of living during that period.

2. By comparing the actual rates of pay at the present time

with the cost of maintaining a given standard of living at present prices.

3. By comparing the rates paid to given classes of workers in the township's service with the rates paid to corresponding classes of workers in other fields of employment.

A comparison of the increase in compensation with the increase in the cost of living between 1914 and 1921 shows that the township has not permitted its employes to suffer from any decrease in the purchasing power of their salaries or wages. According to the United States bureau of labor statistics, the cost of living in Philadelphia in December, 1921, was 74.3 per cent higher than it was in December, 1914. During the same period the average rate of pay of those employes who hold permanent salaried positions, and who have performed the same grade of work continuously from 1914 to the present time, has been 78 per cent, or 3.7 per cent more than the increase in the cost of living. Unskilled laborers on highway work were paid from $1.65 to $1.75 per day in 1914, and in 1921 received $4.05 per day, an increase of about 138 per cent. The commissioners of the township therefore are to be highly commended for the consideration they have given to the economic needs of the township's workers during the trying period of rapidly rising prices through which we have just passed.

On the other hand, when we view the rates now paid to Lower Merion Township employes from the standpoint of the cost of maintaining a given standard of living at present prices, the situation does not look nearly so favorable.

There appears no good reason for believing that the cost of living in Lower Merion Township is materially lower than it is in Philadelphia. If we may assume that it is about the same in both places, then it is possible to compare the salaries and wages of Lower Merion Township employes with the annual cost of maintaining a minimum health and decency standard of living for a workingman's family of five persons in Philadelphia at December, 1921, prices. According to an investigation made by the Bureau of Municipal Research of Philadelphia about four years ago, it cost, at prices obtaining in the autumn of 1918, $1,636.79 to maintain the standard of living just described. Since the existing retail price level in Philadelphia is practically the same as it was in December, 1918,[8] it would appear that $1,640 is a fairly close estimate of the annual cost of such a standard of living at present prices.

Turning now to the pay-roll of Lower Merion Township, we find that of the permanent salaried officers and employes other than elective officials, only nine receive at least $1,640 per year, whereas 53 receive less than that amount. The distribution of these permanent salaried employes by annual rates of pay, as of October, 1921, is as follows:

Number of Employes	Annual Rate of Pay
1	$4,000
1	3,500
2	2,700
2	2,500
1	2,400
1	2,200
1	1,800
3	1,600
17	1,500
8	1,380
16	1.320
5	1,200
1	1,000
1	960
1	780
1	600
62	

Laborers, of whom there were 42 in October, 1921, are paid 45 cents per hour and work 9 hours a day, making their daily wage $4.05. By working 313 days a year it is possible for a laborer, at this rate of pay, to earn $1,267.65 throughout the year. Very few, if any, of the laborers, however, are employed by the township the whole year, and therefore their actual average income from township employment would fall below the figure just cited, and considerably below the annual sum considered necessary to support a family of five according to a minimum health and decency standard of living.

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[8] According to the U. S. bureau of labor statistics, the cost of living in December, 1918, was 73.9 per cent above the December, 1914, level, and in December, 1921, it was 74.3 above the December, 1914, level.

It is pertinent, in view of this comparison, to ask how these workers manage to live? The answer may be found partly in the fact that, among the permanent salaried employes at least, only a small proportion have families of five persons to support. Below is given a distribution of these employes according to the number of children under 16 years of age dependent upon them for support.

34 employes have no children under 16 years of age
15 " " 1 child " " " " "
6 " " 2 children " " " " "
4 " " 3 " " " " " "
2 " " 4 " " " " " "
1 employe from whom no report was received

If to the number of children enumerated we add the two parents, it would appear that only six employes of the 61 from whom we had reports in October, 1921, had as many as five persons in the immediate family to support. Doubtless a considerable number of employes are contributing to the support of persons other than their wives and their children under 16 years of age, but the exact facts are difficult to obtain.

Another answer to the question how so many of the employes manage to live on less than $1,640 per year may be that in many of the families, especially those of the laborers, the earnings of the husband are supplemented by those of the wife and children. This, at any rate, is true in many workingmen's families elsewhere. It is not, however, a condition that is socially desirable.

We may conclude, therefore, that while a large portion of the employes of Lower Merion Township probably are able to maintain a standard of health and decency because of the small number of persons dependent upon them for support, yet a comparison of their present salaries with the cost of living at present prices does not give a rosy picture of the economic well-being of the township's workers. From this standpoint they appear to be underpaid rather than overpaid.

Our third test of the adequacy of existing salaries and wages in the Lower Merion Township service is to compare the rates paid to the various classes of township workers with the rates paid to corresponding classes of workers in other services. In order to apply this test, wage inquiries were made among several of the large private corporations of Philadelphia. While this investigation was by no means exhaustive, it included seven of the largest private employers in the community, and the answers to our inquiries we believe to be fairly typical of prevailing conditions. The pay-roll of the city government of Philadelphia also was consulted.

From the information thus obtained, it would appear that most of the classes of workers in the township's service are at present paid lower salaries and wages than the prevailing rates. Among the most conspicuously underpaid employes in the service are the policemen. The township is now paying patrolmen from $1,320 to $1,500 a year, and furnishes them with uniforms.

The city of Philadelphia pays its patrolmen $5 a day for 365 days in the year, making their annual compensation $1,825. Philadelphia patrolmen also receive a clothing allowance of $50 a year. A large local private corporation which maintains a police force of its own pays its patrolmen from $144 to $160 a month, or from $1,728 to $1,920 per year. However, it grants a clothing allowance only to new employes.

We may now consider briefly the fairness with which the pay-roll fund of the township is distributed among the various individual employes and classes of employes. In general, it may be said that there are practically no inequalities of pay for the same kind and grade of work. It is open to question, however, whether the almost absolute uniformity of pay, outside the police force, for all workers of a given class, regardless of their efficiency or length of service, is altogether desirable. A great many private establishments, as well as a growing number of public corporations, are departing from the uniform flat rate and are substituting a range of compensation with minimum, maximum, and intermediate rates for the workers of a particular class. Beginners are started at the minimum rate and then advanced according to efficiency and length of service to the higher rates. Prior to 1920, the township patrolmen were compensated in a manner closely approximating this. We would suggest, therefore, that the plan formerly in effect for patrolmen be re-established and that it be extended as soon as practicable to all the other larger classes of workers, with the possible exception of laborers. For the latter it may be best to continue the uniform flat rate, especially in view of the well-nigh universal practice in private service of paying all unskilled manual workers the same rate of pay.

Based on these principles and considerations, we recommend the following schedule of compensation for the non-elective officers and employes of the township:

1. Officials elected by the board of commissioners for a term of one year:

	Minimum	Maximum
Chief of police	$3,000	$4,000
Secretary	3,000	4,000
Secretary, assistant	1,800	2,700
Superintendent of drainage	1,800	2,700*
Superintendent of highways	3,600	4,800*
Township solicitor	No recommendation	

2. Officials appointed by the board of health for a term of one year:

	Minimum	Maximum
Health officer	$2,400	$3,600

3. Officials and employes appointed for indefinite terms:

	Minimum	Maximum
Building inspector	$2,400	$3,600
Chief engineman	1,860	2,160
Clerks, junior	780	900
Clerk-typists	960	1,320
Engineering inspectors (temporary service)	150	200 per mo.
Enginemen	1,320	1,800
Foremen	1,320	1,800
Janitors	780	1,200
Patrolmen	1,500	1,800
Playground instructors	No recommendation	
Rodman (temporary service)	60	90 per mo.
Sergeants	2,100	2,700
Superintendent of highways, assistant	2,100	3,000
Turnkey	1,080	1,440

No recommendations are made for *per diem* employes.

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* These positions may be combined under the by-laws of the board of commissioners.

Hours of Work

The formal office hours of the township hall for the transaction of public business are from 9 A. M. to 4 P. M. on weekdays, except Saturdays. On Saturdays the formal office hours are from 9 A. M. to 12 noon. The office workers, however, are on duty from 8:30 A. M. to 4:30 P. M., with an hour's intermission for lunch, except Saturdays. On Saturdays they are on duty from 8:30 A. M. to 12 noon. This arrangement seems entirely satisfactory.

In the pumping stations the employes work in two shifts. The men who are on duty during the day work from 8 A. M. to 5 P. M., and those who are on duty at night work from 8 P. M. to 5 A. M. In stormy weather, however, the employes of one shift remain on duty until relieved by the employes of the other shift. Laborers on highway work are employed nine hours a day and the truck drivers are employed 10 hours. Policemen are formally on duty eight hours a day, although a few of the patrolmen have been required to put in longer days on their beats. All are subject to special duty in addition to their regular tour.

The only change we would suggest in these hours of work is that the standard eight-hour day be put into effect for highway laborers as soon as this can be done without undue expense to the township or undue hardship to the workers. Truck drivers, whose duties require them to work longer than the laborers, could then be given a nine-hour day. It is expected, of course, that as soon as the size of the police force permits, no patrolman will be required to remain on duty more than eight hours.

Vacations and Holidays

All appointive permanent salaried officials and employes, other than members of the police force and the foreman on highway work, are permitted to take an annual vacation of two weeks with pay. Members of the police force receive an annual vacation of 10 days with pay. The foremen and day laborers on highway work, however, receive no vacation at the expense of the township. In addition to the vacation allowances, 12 legal holidays are observed in the business offices of the township.

In its provision for vacations, the township is following the usual practice of public corporations and cannot be said to be unduly generous. It would be desirable to accord the same treatment to laborers on highway work that is given to other employes, but since these laborers cannot be employed regularly throughout the year, it hardly seems practicable to do so. This, however, ought to be taken into account in fixing the wage scale for these workers. Since the highway foremen are practically off duty during parts of the winter months, a special vacation may not be necessary for them. We suggest, also, that members of the police force be allowed an annual vacation of two weeks with pay. This would make all vacations uniform in length throughout the service.

Sick Leave

There is no standard provision for sick leave in the township's service. In the past, absences from duty on account of illness have been treated on an individual basis. The rule, however, has been to continue the pay of any permanent salaried employe during the period of his illness without regard to its length. As a safeguard against abuse, any protracted absence on account of illness is passed upon by the committee in charge. Day workers, however, have not been paid when absent on account of illness.

The service of Lower Merion Township has not yet grown so large as to make it difficult or impossible for the board to give attention to individual occurrences of illness in the service. While, therefore, it is not urgent, nevertheless, it would be desirable, especially as the number of employes grows larger, to set a definite time limit of from 30 to 60 days, within any one year, beyond which the township will not continue to pay the regular compensation to workers who are prevented by illness from performing their duties. The board might reserve the privilege of extending this period for an employe when the circumstances warrant; but the exercise of this privilege should be the exception rather than the rule. Employes who are permanently incapacitated, or incapacitated for a long period, ought to be taken care of by means of general disability and retirement provisions. This phase of the problem will be treated more fully in a later section of this chapter. It is also suggested that day laborers be continued on the pay-roll within limited periods during temporary illness. When absence occurs on account of illness, proper measures should be taken to ascertain whether the absence from duty is in fact due to illness or to other causes.

Political Activity and Political Assessments

It is gratifying to report that the employes of Lower Merion Township are comparatively free from pressure to participate in political affairs and to pay political assessments. Very few instances of political activity of township employes have come to our attention, and we have found no evidence that employes have been coerced into paying political assessments.

Notwithstanding this gratifying condition, it would be desirable to make it a rule—in fact, a part of the by-laws—that no appointive officer or employe of the township shall take any part in the political affairs of the township other than voting, and that no such officer or employe shall either receive or pay any contribution for political purposes. A by-law of this kind doubtless would be welcomed by the employes and would strengthen their determination not to participate in politics and to refuse to make political contributions.

Discipline and Removals

Under the by-laws the power to suspend officials and employes other than highway laborers, is placed in the various committees. These committees are required to report all suspensions to the board for approval or disapproval, the board reserving to itself the right of making final removals from the service. The police and fire committee acts as a trial board when the discipline of members of the police force is involved. Highway laborers, however, may be suspended and removed by their foremen. It has also become an unwritten right of the chief of police to suspend a police officer on his own responsibility pending action by the committee.

It would be desirable to give the appointive executive head greater power of discipline and removal, as well as of initial selection. All superintendents of departments and the chief of police ought to have the power to suspend an employe for a limited period of not more than 30 days without first obtaining the approval of his committee. It is entirely proper, however, at least so long as the committee system of administration is continued, to give the various committees the power to review all suspensions by the appointive executive heads, and to require the approval of these committees before any employe can be dismissed from the service. The present practice of the police and fire committee in sitting as a trial board in the discipline of members of the police force is commendable and should be continued. We would, however, recommend discontinuing the practice of having the board of commissioners itself pass upon suspensions and removals.

Retirement of Employes

Few factors are more important in determining the morale and efficiency of a group of workers than the provision made for disabled and aged employes. Where the workers know they will not be left entirely in want when no longer capable of active service, they are more contented, their individual output is greater, and the turnover in the service lower than in organizations where employes have no such assurance. At the same time, a system of disability and retirement allowances opens the way out of the dilemma of either continuing aged or disabled workers in the service long after their usefulness is over, or ruthlessly casting them out upon the world without provision for their economic needs.

At present Lower Merion Township does not have any system for retiring its disabled and aged employes. The need of one has been realized for some time by the members of the commission, and plans for meeting this need are now being considered. How pressing the need is may be gathered from the fact that of the 61 permanent salaried employes on the township pay-roll in October, 1921, from whom we had reports, five, or almost one-twelfth, were 65 years of age or older. Three had been in the service of the township for at least 20 years. The total number of employes who either had reached the age of 65 or over, or had served the township for at least 20 years, was seven. This means that under the usual pension provisions about one-ninth of all these workers might be on the retired list. The following tables show the distribution of the permanent salaried employes according to ages and length of service, and by departments:

DISTRIBUTION OF PERMANENT SALARIED EMPLOYES BY AGES AND LENGTH OF SERVICE AS OF OCTOBER, 1921

Years in service	All Ages	74-79	70-74	65-69	60-64	55-59	50-54	45-49	40-44	35-39	30-34	25-29	20-24	Under 20
All groups ...	61	1	1	3	3	8	3	6	4	6	8	13	4	1
21 and over ..	2	..	..	..	2	..	..	..	..	..	..	..	..	..
20	1	..	..	1	..	..	..	..	..	..	..	..	..	..
19	2	1	..	..	..	1	..	..	..	..	..	..	..	..
18	2	..	..	..	1	1	..	..	..	..	..	..	..	..
17	2	..	..	..	..	2	..	..	..	..	..	..	..	..
16	1	..	..	..	..	..	..	1	..	..	..	..	..	..
15	2	..	..	..	..	..	..	..	1	1	..	..	..	..
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12	2	..	..	..	..	1	..	..	..	..	1	..	..	..
11	4	..	..	1	..	..	..	1	..	1	1	..	..	..
10	1	..	..	..	..	..	..	1	..	..	..	..	..	..
9	3	..	..	1	..	..	..	..	..	..	..	..	..	..
8	2	..	..	..	..	..	..	1	1	..	..	..	..	..
7	1	..	..	..	..	1	..	..	..	..	..	..	..	..
6	5	..	..	..	..	1	..	1	..	..	2	1	..	..
5	1	..	..	..	..	..	..	..	..	..	1	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	5	..	1	..	..	..	1	1	1	..	..	1	..	..
2	3	..	..	..	..	..	..	..	..	..	..	2	1	..
1	15	..	..	..	..	..	2	..	1	2	2	6	2	..
Less than 1 ..	7	..	..	..	..	1	..	..	..	..	1	3	1	1

DISTRIBUTION OF PERMANENT SALARIED EMPLOYES ACCORDING TO LENGTH OF SERVICE AS OF OCTOBER, 1921

Years in service	All departments	Bd. of health Adm.	Highway	Health & Drainage	Building Regulation	Police & Fire
All groups	61	5	8	9	2	37
Less than 1	7	1	1	1	1	3
1	15	1	..	1	1	12
2	3	..	..	1	..	2
3	5	..	..	2	..	3
4	..	..	..	..	..	..
5	1	..	1	..	..	..
6	5	1	..	..	..	4
7	1	..	..	1	..	..
8	2	..	..	..	..	2

Years in service	All departments	Bd. of health Adm.	Highway	Health & Drainage	Building Regulation	Police & Fire
9	3	..	..	..	..	3
10	1	..	..	1	..	..
11	4	..	1	..	..	3
12	2	1	..	..	..	1
13	..	..	..	..	..	..
14	..	..	..	..	..	..
15	2	..	..	..	..	2
16	1	..	..	..	..	1
17	2	..	1	1	..	..
18	2	..	1	1	..	..
19	2	..	1	..	..	1
20	1	1	..	..	..	..
21 and over	2	..	2	..	..	..

DISTRIBUTION OF PERMANENT SALARIED EMPLOYES ACCORDING TO AGES AS OF OCTOBER, 1921

Age groups	All departments	Bd. of health Adm.	Highway	Health & Drainage	Building Regulation	Police & Fire
All groups	61	5	8	9	2	37
Under 20	1	..	..	..	1	..
20-24	4	1	..	1	..	2
25-29	13	1	..	..	..	12
30-34	8	..	1	1	..	6
35-39	6	..	..	..	..	6
40-44	4	..	..	..	..	4
45-49	6	1	1	1	..	3
50-54	3	..	..	2	1	..
55-59	8	1	2	3	..	2
60-64	3	..	3	..	..	..
65-69	3	1	..	..	..	2
70-74	1	..	..	1	..	..
75-79	1	..	1	..	..	..

There are two important facts that need to be considered in any effort to meet the specific need of Lower Merion Township for a system of retiring its disabled and aged employes. First, the number of persons in the township's service is not large enough for the operation of a disability and retirement fund on an actuarial basis. Second, there is no state legislation expressly enabling the township to establish such a fund by the appropriation of township money, and it is doubtful whether the township has the implied legal power to do so.

The ideal way of meeting the township's need is by a statewide act that would include in a single system all employes of the smaller local governments of Pennsylvania. Under this arrangement, it would be possible to establish and maintain a disability and retirement fund on an actuarial basis, which is the only sound basis for administering the fund. At the present time, however, we have no such law in Pennsylvania; yet the problem confronting Lower Merion Township ought to be met in some way in the immediate future. Until appropriate state legislation can be secured, it seems highly desirable that the township itself should devise means of dealing with disability and retirement, even though it is not possible to work out an ideal plan. The following alternative plans are, therefore, suggested:

1. Against prolonged sickness or other disability, in addition to the provision already made under the workmen's compensation act, the township might buy group insurance from a reliable insurance company. Since the township may not have the legal right to appropriate money for this purpose, it may have to obtain the consent of the employes to raise the necessary funds by deductions from their pay. This naturally brings up the question of the financial ability of the employes to bear these deductions from their present salaries and wages. If it should seem an unreasonable burden for them, the township might well increase their pay by the amount of the proposed deductions, provided the employes agree to have the increases used for this purpose.

2. The township might establish a retirement fund for aged employes, the income for the fund to be derived from contributions from the employes in the same manner as for the group-insurance fund. Since the demands upon this fund in so small a service as that of Lower Merion Township will vary considerably from time to time, the contributions of the employes would also have to vary. Here again the township would find it advisable to make corresponding adjustments in the compensation of the employes.

3. The township might establish a disability and retirement fund to be operated in the same manner as the fund suggested in the preceding paragraph. If this is done, the purchase of group insurance will not be necessary.

The suggestion has been made by some of the township workers that gifts of money from private citizens might be used for pension purposes. For example, it is urged that unsolicited gifts which are now received by the chief of police and distributed to the members of the force as a bonus, might be put in a pension fund.

It would not be without precedent to support a pension fund in part by means of private donations; but the experience of other public corporations with this plan has been far from satisfactory. In Philadelphia, for example, the acceptance of donations soon developed into actual solicitation of gifts for the police and fire pension funds. This not only proved annoying to the public, but failed to produce the needed income, and finally was abandoned. After all, the practice of accepting donations from private individuals for the benefit of the employes is not essentially different from that of accepting tips in a restaurant, and is likely to have the same demoralizing effect. We therefore suggest that no gifts be accepted for any disability or retirement fund, but that, pending the passage of a state-wide retirement act, all the money needed for the purpose be raised as indicated in the three alternative plans.

Suggestions for Employment Control

At this point let us return to a further consideration of the township's distribution of employment control. It has already been suggested that more authority ought to be exercised by the appointive executive heads and less by the committee and the board of commissioners. If a township manager should be employed, the authority which we have suggested giving to the department heads should be given to the manager. The township manager, for example, should have full authority to make his own appointments and promotions in all the departments of the township's government. In actual practice, he would probably be guided in making appointments and promotions by the judgment of the various heads of departments, and this would be entirely proper. The legal power to appoint and promote, however, ought to reside in the township manager himself. Likewise, the township manager should be given the right to suspend an employe for a limited period, and his right of dismissal should be curbed only by permitting the employe against whom charges have been preferred to appeal to the appropriate committee of the board of commissioners. In all such appeals this committee should sit as a trial board, as is now done by the police and fire committee in maintaining discipline in the police force. Even in a township-manager plan, however, the board of commissioners should still specify the number of persons who may be employed, and fix the rates of pay for the different classes of workers.

It also seems most desirable that it be made part of the duty of one of the administrative officials, preferably the secretary. to give special attention to the employment affairs of the township. This official might be charged with keeping a card roster of the entire personnel of the service. Such information as dates of appointment, rates of compensation, transfers, promotions, leaves of absence, increases in pay, and other changes of status should be recorded on these cards. All applications for employment ought also to be received and kept on file by this official. It should, moreover, be his business to make occasional inquiries into different phases of the employment situation and to make recommendations thereon to the board. He should, in fact, perform all functions that ordinarily are performed by the employment manager in concerns whose services are large enough to warrant the expense of a separate personnel officer.

CHAPTER XII

TOWNSHIP PROPERTY

THE TOWNSHIP OFFICES

The only pressing problem arising from the township's property is the need of enlarged and consolidated quarters for the township offices.

The present township hall is the property of the township. It was remodeled from a large residence building which was purchased by the township in 1914. It is situated in Ardmore on a plot about 200 feet square, fronting on Lancaster Avenue, opposite the Simpson Memorial Church. In addition to furnishing meeting room for the board of commissioners and its committees, the town hall houses the secretary, building inspector, superintendent of highways, superintendent of health and drainage, and the health officer, together with their assistants, stenographers, and clerks. The janitor and his wife use the third floor as living quarters. The building is obviously inadequate for this force. Several important township officers, moreover, are not housed in the town hall. The township treasurer occupies offices in the Merion Title Building, and the police headquarters are located at a rather inaccessible point, 10 minutes' walking distance from the town hall. As there is constant necessity for communication between all township officials, it would be desirable that they all have quarters in the same building.

Not only is the town hall inadequate, but the location has certain disadvantages. Occupants of the building are subjected to great annoyance from the operation of the Pennsylvania Railroad, whose main line adjoins the rear of the property. This annoyance alone makes inadvisable the enlargement of the present town hall as a permanent expedient. Enlargement as a temporary measure seems impracticable, because neither the present structure nor any addition to it that could be made would conform with the present real estate development in the vicinity, and money now placed in enlargements probably could not be recouped in a sale of the property.

New Lancaster Avenue Site Purchased

With a view of the erection of adequate consolidated quarters for the township officers, the township purchased in June, 1919, a tract of land almost opposite the present town hall. This tract has a frontage of 270 feet on Lancaster Avenue, and extends obliquely from Lancaster Avenue about 1,000 feet to Athens Avenue, on which it has a frontage of about 175 feet. The plot contains between five and six acres. It is exceedingly irregular in shape, being bounded by eleven different lines, and is rather unfortunately situated, the property lines along the two longer sides abutting for most of their length on back yards of residences. For this land the township paid about $98,000, raised by a bond issue.

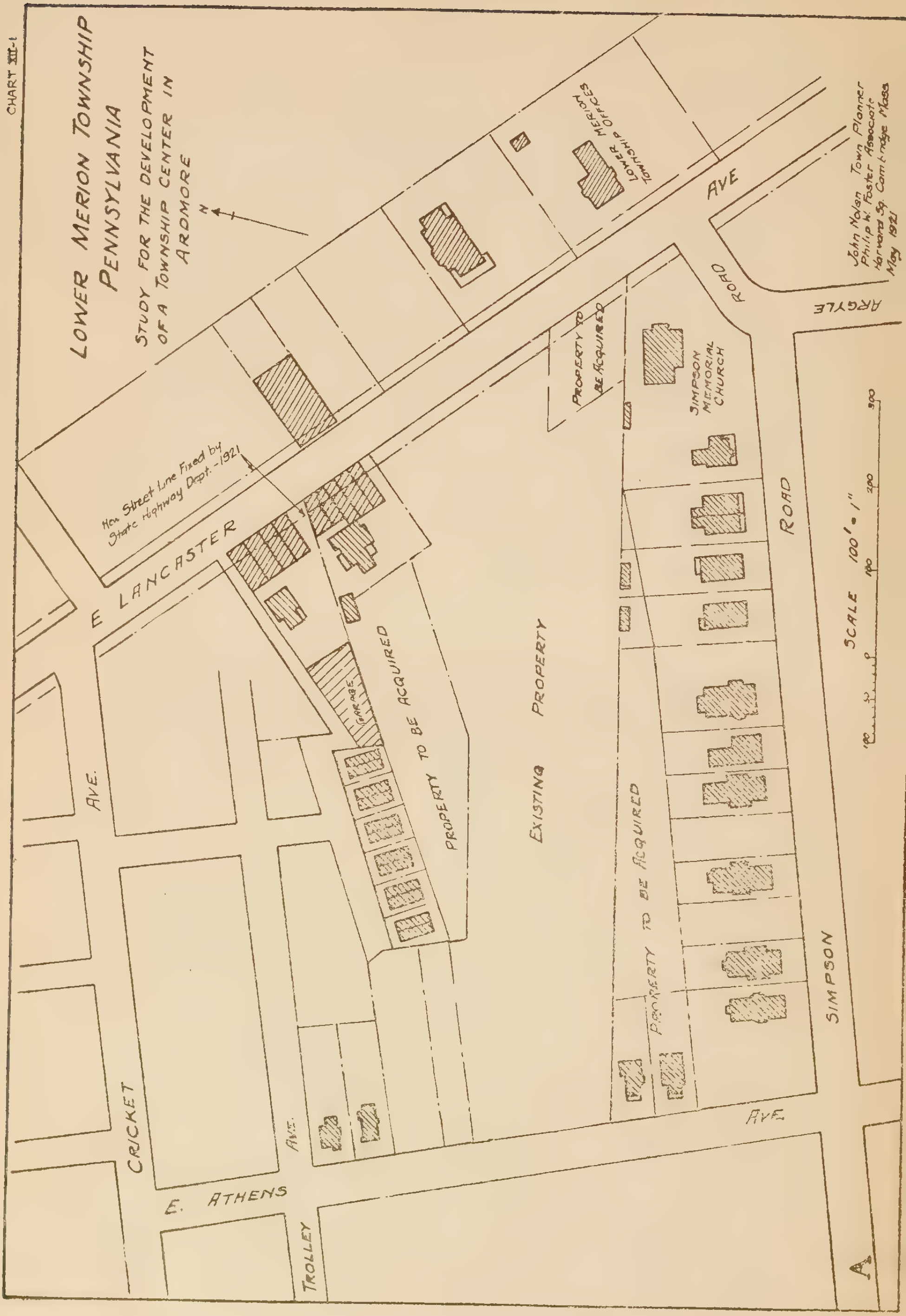
What should be done with the land presents a complicated problem. Owing to the irregular shape of the tract, its unsatisfactory surroundings, and the consequent difficulty of adapting it to the purposes for which it was acquired, there seems to be some hesitation about using the land as a site for township buildings.

Property Poorly Adapted to Good Development

In order to secure expert advice on the possibilities of the tract as a site for township buildings, the board of commissioners retained Mr. John Nolen, a landscape architect and town planner of Cambridge, Mass., formerly a resident of the township. Mr. Nolen's study of the situation being by far the most exhaustive that has been made, and being, moreover, based on a very high grade of technical skill and experience, we are venturing to quote and summarize his conclusions at some length. In a letter dated June 7, 1921, addressed to the chairman of the finance committee, Mr. Nolen states that the irregular shape of the plot and the "back-yard conditions" reduce the accessibility and circulation to a minimum and made the outlook unattractive. He feels, however, that the unfavorable conditions can be modified and submits a plan showing additional adjoining property which should be acquired to square up the present plot (see chart XII-1).

If it is concluded that the plot is a proper place for the new township buildings, Mr. Nolen thinks that there are two distinct

CHART XIII-1



LOWER MERION TOWNSHIP
PENNSYLVANIA

STUDY FOR THE DEVELOPMENT OF A TOWNSHIP CENTER IN ARDMORE

John Nolan Town Planner
Philip W. Foster Associate
Harvard Sq. Cambridge Mass.
May 1921

ways of treating the problem. The first is to try to locate at this point all the activities of the township and of the village of Ardmore, using the end of the property nearest to Lancaster Avenue for the buildings and the remainder for a small park or open space. Drawings are submitted developing this idea in three ways, each showing the location of a town hall, library, and police and fire station, with a part set off by a wall and planting for a town yard, with storage buildings and stalls for the parking of automobiles.

Each of these studies assumes the acquisition of additional land, as shown on chart XII-1. Special emphasis is placed on the necessity for acquiring title to the small block of property adjacent to the Simpson Memorial Church. In Mr. Nolen's opinion, the possible development of this property with store buildings located directly on the building line would break into the openness created by the township property and the church. He feels this would be fatal to the good appearance of any of the plans. "It would also be a handicap to the success of this plan," states Mr. Nolen, "if in the future the church property should be sold, as seems not unlikely, and a business block erected on the corner of Lancaster Avenue and Simpson Road."

The second suggestion of Mr. Nolen is to erect on Lancaster Avenue, for the use of Lower Merion Township, a modern business building which would eventually be sold for stores and offices. If this were done, Mr. Nolen suggests that on the remainder of the property the street layout could be established in advance, and the property sold for development under controlling restrictions.

The plans submitted to illustrate this idea show the township building as a business block on the building line of Lancaster Avenue, with provision in the rear for a storage building, town yard, and parking space. Of this suggestion Mr. Nolen says:

> This type of township building might serve as headquarters for the township departments for a number of years; and in the future, when a more adequate and more appropriate development could be undertaken, this property could be sold without loss for store and office purposes. . . . My reason for suggesting this second idea is that in our opinion the plot recently acquired is not as suitable in location and boundaries as other available sites for permanent buildings and a central park for Lower

Merion Township. The front on Lancaster Avenue of the plot recently purchased is not only better adapted, but actually needed for future stores and offices, while the rear is more suitable for houses than for a public open space.

Against this second plan there is the doubt whether a future site could be obtained as cheaply as the present one, and whether any saving made by the adoption of temporary measures will not be more than offset by appreciated land values at the time the township is ready to choose a permanent location. Some also hold that there are legal obstacles to the expenditure of township money for the accomplishment of this plan. If, however, the township is the sole occupant while the building is used by the township, it would seem that no legal objection could be raised which could not be raised just as effectually against the erection of any other type of township hall. It would be different if the proposal were to erect the building with a view to renting offices and store space. But this is not the proposal, or at least is not a necessary part of it. The essential feature of Mr. Nolen's suggestion is that a building be erected which, when sold, will be marketable because adapted to business use, and located in a business section.

Advantages of Retaining Site

Apparently there is no doubt that the land in question could be sold by the township at an advance over the price paid for it. There is, however, a strong feeling that whether the plot is used as a site for township buildings or not, the township should not part with the title. Notwithstanding the unpleasant surroundings, this tract is the only central place in Ardmore available for park purposes, public dancing and music, and comfort stations. It is pointed out, also, that the nearest playground is four blocks distant. Parking space for automobiles is needed in this locality, as the present practice of parking machines on Lancaster Avenue results in accidents with increasing frequency. There is also the feeling that the township should erect a memorial to soldiers, sailors, and marines, and the township's title to this tract is regarded as simplifying the problem of a site for the memorial.

If the land should be sold, the frontage both on Athens Avenue and on Lancaster Avenue could without doubt be well developed; but it is thought by some that the central part of the plot lends itself to nothing but an undesirable residential development. This, however, as is pointed out by Mr. Nolen, could probably be partly controlled by the township by a sale subject to building restrictions. Further, it is the opinion of a number of people that with this plot fully built up the danger of conflagration would be greatly increased, since the land to the south is occupied by residences, while the land to the north is solidly built up. It is argued that it would be unwise either to increase the solidly built area in this vicinity, or to close up the present open space from which fires on the adjoining land could now be fought.

Another proposal is worthy of mention. Several years ago, Mr. Frederick L. Olmsted and Mr. Arthur C. Comey, of Boston, landscape architects and town planners, who were retained by The Main Line Citizens' Association, suggested the inadvisability of allowing lands along the various creeks to be developed for residence purposes, and the advisability of constructing a system of parks along these waterways. It was suggested that a road which would connect parkways along Cobb's Creek and Mill Creek could be built through this tract, while other parts of the tract could be developed as a park. It was shown that this was the only remaining undeveloped land that could be used for park purposes.

On the other hand, in many parts of the township, there is said to be a strong sentiment against putting township money into, or allowing it to stay in, any project which will be of special benefit and comfort to Ardmore alone. This attitude, of course, serves to complicate an already perplexed problem.

Other Sites Considered

Other sites for township buildings have been considered, but none has been found which could be obtained for a price which the commissioners feel they could afford to pay. If the land recently purchased is sold, the problem of financing the purchase of a new site would, of course, be greatly simplified. This expedient, however, as we have pointed out, is likely to meet with objection from a number of the citizens of the township.

The financing of a new town hall is affected by certain amendments to the code approved May 16, 1921 (P. L. 575). While the exact meaning of these amendments is open to some doubt, they seem to enlarge substantially the powers of the township to incur debt for township hall purposes. The amendments may afford a way out of the dilemma, at least so far as financing is concerned.

No Solution of the Problem in Sight

Although the township has held the present new site more than two years, the problem of a new town hall now seems farther from solution than when the land was acquired. No one seems to have any plan which is concurred in by any large number of citizens of the township, and we have not been able to find any enthusiasm even among the few who have definite ideas on the subject. At present some filling and grading is being done on the land to provide parking space for automobiles. Temporary as this project may be, it is apparently the only definite use of the land in prospect.

It is difficult to see how delay can have any effect other than to introduce further complications. There is probably no escape from the necessity of moving the township offices from their present location sooner or later. If the site recently purchased for the new buildings is eventually to be used for that purpose, the township will save by securing the new quarters at the earliest possible date and selling the property on which the present town hall stands. If the new site is not to be used, some means should be found at once to secure another site, for high priced as land in Ardmore is at present, there seems to be no likelihood that the cost will be anything but higher in the future.

The Policy of Avoiding Condemnation Criticised

It will be appropriate at this point to discuss briefly the policy which is followed by the board of commissioners in the acquisition of real property. With the exception of the site of the Ardmore sewage-pumping station, it seems that the township has never condemned any land for building or playground purposes, and the feeling of the commissioners seems strongly averse to the use of the condemnation method. No exception can be taken to this attitude so long as it is possible to secure property by purchase on reasonable terms and at desirable locations. Evidence is not lacking, however, that it is becoming increasingly difficult to acquire suitable property by negotiation and purchase.

It seems to be a common impression among property-owners that their property should bring a higher price if purchased by the township than would otherwise be obtained. The board of commissioners has had to contend with this difficulty a number of times. As soon as it becomes known that the township is a prospective purchaser, the price soars. This has led the commissioners to such expedients as having an intermediary whose agency for the township is not disclosed secure an option on the desired land. With the owner thus bound, the commissioners can let it be known, without affecting the price, that they contemplate purchasing the land. This procedure, however, manifestly leaves something to be desired, since it is calculated to breed a certain amount of distrust and resentment, and is not so above-board as the administration of public affairs ought to be.

The delay in securing a playground at Ashland Heights is said to be due to the inability of the board of commissioners to secure land at a price considered fair. The problem of finding a proper site for the town hall also may be complicated by the difficulty of price and the reluctance of the commissioners to resort to condemnation. It may be fair to ask whether, if the township had followed the policy of choosing the land it desired for a township hall, with a determination to condemn if necessary, it would have selected the Lancaster Avenue site which is now causing such embarrassment. In other words, to what extent was the choice of this piece of land due to its availability without condemnation?

As the population of the township grows, the difficulty of purchasing land for township purposes is likely to increase rather than diminish, and sooner or later the board of commissioners will have to face the necessity of using their power to condemn. The exercise of this power sometimes works hardship, especially on owners who do not desire to part with their property on any terms; but at times individual rights must yield to the public good. Jealous as the courts are of private rights, they nevertheless realize that government may be frustrated by too firm insistence upon the sanctity of such rights. The hardship is mitigated by the generous protection against taking private property without adequate compensation.

Public Buildings Closely Associated with Town Planning

It will not be inappropriate to quote at this point the concluding paragraph of Mr. Nolen's letter of June 7, 1921:

> Lower Merion Township is one of the wealthiest in the United States, and it seems proper and fitting that any public expression of the township in its public buildings, parks, open spaces, and other public works should reflect this wealth in an appropriate manner. It is, of course, not necessary to be extravagant or wasteful; but it is desirable to express the character of the community properly in good buildings, well located, and in far-sighted plans, in order to retain the interest, pride, and loyalty of the people. Ardmore would seem to be the logical centre for the focusing of the township activities, because of the association, custom, and density of the population of the village. Ardmore, however, has apparently never been studied thoughtfully and planned with this idea in mind, and from the town-planning point of view is full of errors and unfortunate developments. In other words, the problem of a building for Lower Merion Township inevitably raises the broad question of town planning for Ardmore as the centre of the township.

Other Township Property

The township also owns a plot 185 by 230 feet situated on the Delaware County line at Lippincott Avenue. On this plot are located sewage-pumping station "B," a storage shed and yard for highway equipment, and the police station. The pumping station may be abandoned within a short time, as it is proposed to stop pumping sewage from this point into the Lancaster Avenue sewer, and to divert it to the sewerage system of Haverford Township. Presumably the police station, which, in addition to being too far distant from the present town hall, is inadequate in size and poorly located, will in time be moved. If present plans for storing the road equipment in close proximity to the township offices are effected, the township will probably have no further use for this piece of land. There does not seem, however, to be any urgent necessity for storing the road equipment close to the town hall, and such proximity is opposed by some as being a blemish on plans which might otherwise be considered satisfactory.

The township also owns sewers and highways; four playgrounds, one each at Ardmore, Bala, Bryn Mawr, and Gladwyne (Merion Square); sewage-pumping station "C" at Cynwyd, and

Mill Creek pumping station "A" on the Gulph Road; and a tract used as a dumping ground, situated on Centennial Road, near the Mary Watersford Road, containing 17.7 acres. The problems related to these properties are discussed in other chapters.

The township leases 15 acres of the tract on Centennial Road to Louis J. Smith at a monthly rental of $10. The land is leased for farm purposes only. It is used partially by the lessee as a pig farm for the disposal of township garbage. The township also leases to Joseph Maurer, Inc., the land occupied by two small buildings on the Centennial Road tract for the purpose of storing powder and other explosives. The buildings themselves are the property of the lessee. The rent reserved by the township is $1 a year.

INVENTORY OF PROPERTY AND EQUIPMENT

In closing this chapter we desire to call attention to the fact that the township keeps no inventory or schedule of property or equipment owned by it. Such records as exist are fragmentary and apparently are not kept up to date. The advisability of maintaining property records is discussed in chapter II dealing with finance and accounting.

CHAPTER XIII

APPRAISAL AND OUTLOOK

GENERAL ACCOMPLISHMENTS

There are many reasons why the citizens of Lower Merion Township should feel proud of the accomplishments of their local government. In comparison with the governments of similar communities, it is unusually proficient in many of its services. We do not attempt to state all the reasons that have contributed to this end. In 1900, when the present organization as a township of the first class was established, arrangements and facilities were inherited from a government of the old supervisor type which were recognized as superior to those of similar townships. To this rich inheritance have been added the enthusiasm and public spirit of officials and employes.

It is neither possible nor necessary to differentiate between the services of these two groups, for the present proficiency is the result of the zealous efforts of both. The work of certain commissioners has been especially conspicuous and the whole community is greatly indebted to them for the service they have rendered. Certain of the employes in the past and in the present stand out prominently because of their ability and fidelity. On the whole, we have found in the present employes a devotion to duty exceeding that which is ordinarily encountered, particularly in our larger cities. This probably explains why the accomplishments have been so noteworthy, even though the administrative organization of the township has lacked central guidance.

An admirable feature of the government of Lower Merion Township is the general absence of major irregularities, favoritism, and corruption. This survey was not directed primarily toward the detection of such features, but through our intimate contact with officials and citizens the way was opened for discovering them if they existed. The only allegation of irregularity which has come to our attention concerns the purchase of the township hall in 1914, a transaction which recently was investigated and reported upon by a committee of citizens appointed by the board of township commissioners.

PRESENT AND FUTURE PROBLEMS

We have tried to set forth clearly in the preceding chapters the problems confronting the township government in its several fields of activity. The citizenry has been apprised of these problems to some degree through the annual reports of the several committees of the board of township commissioners. These reports have generally been very good—some of them especially good; but unfortunately they have not been published and distributed for several years. Accordingly, we have endeavored to present an inclusive picture of the township's activities, to analyze the problems existing, and to forecast wherever possible the developments of the future. In this chapter it is, of course, possible to touch only the high lights of the preceding sections.

We find that the highway system of the township compares quite favorably with that of any neighboring township of the first class, but that its proper development is handicapped by insufficient funds. We have recommended changes in the policy of performing highway-improvement work and of financing it. We have pointed out the immediate necessity for completing comprehensive surveys of the township, including topographical mapping, whereby a system of lines and grades could be established and control could be exercised over street planning and property subdivision, in order that the township's development may proceed along orderly and intelligent lines.

In our analysis of the work of the health and drainage committee, we have found of chief importance the need for a comprehensive plan for the sewerage of the large eastern portion of the township, a matter which involves additional provisions for sewage disposal. Attention must also be directed to the securing of facilities by the township for the disposal of garbage and perhaps other wastes.

While the board of health has made gratifying progress, the demands upon it for the extension of its services were found to be numerous. In the last few months, plans have been maturing for more adequate protection of the milk supply. There is urgent need for the expansion of the board's work in the control of communicable diseases. In this field, public health nurses would be of great value, and through cooperation with the school board this service might be carried into the schools.

Our very early conclusion that the police force was in size inadequate to the needs of the township has been modified to some extent by the provision in 1922 of 14 additional patrolmen—an increase of nearly 50 per cent. This increase, however, in our opinion, is not sufficient. There is urgent need for more adequate compensation; for meeting the increasingly difficult traffic problems; for establishing patrol booths; for introducing the use of automobiles for patrol purposes; for insuring thorough training of the force; and for installing a police record.

The gratitude of the citizens of the township is due the members of the several volunteer fire companies, who frequently undertake a necessary community function, and often get few thanks for their services and sacrifices. But the township is outgrowing the facilities that can be provided by a number of independent organizations merely receiving financial aid from the township. There is urgent need for co-ordinating the efforts and resources of the several companies and for giving greater attention to fire prevention. Accordingly, we have recommended a township fire chief or fire marshal, to be employed on a full-time basis.

The township has made a praiseworthy start in its provision of playground facilities. While the large amount of open space in the township might seem to render additional playgrounds unnecessary at this time, certainly the needs of the future will not be adequately met by existing facilities, and the future should not be penalized by present inaction. The supervision of playgrounds has not been entirely satisfactory. We have indicated how this may be improved and have suggested a plan for combining and jointly administering the play facilities provided by the board of school directors and those provided by the board of township commissioners.

The township has no parks within its borders, but the time is approaching when a greater density of population will create a need for them. Small parks should be provided as new land subdivisions are planned. The township also owes a duty to its own citizens and to those of the whole metropolitan area of Philadelphia to conserve the priceless scenic beauty of the Mill Creek valley to the greatest possible extent.

A wise step forward by the board of township commissioners was the adoption of the present building code. In the face of a rapid increase in building operations, it is important to improve the administrative machinery, particularly the office routine. The control exercised over structural features of building should be supplemented by the application of zoning regulations which will prevent improper uses of property. This problem should be studied immediately, and the necessary power to enact zoning regulations should be sought from the legislature.

Some may assume that Lower Merion Township will always be predominantly a residential district. The assumption may not be justified, since the main line of the Pennsylvania Railroad offers attractive inducements to industrial plants, while the facilities of the Philadelphia & Reading Railway and the water frontage on the Schuylkill River naturally suggest industrial development in that locality. Although it would be difficult permanently to resist an undesirable development which is afforded a natural environment, the encroachment of industrial growth in the township can be very largely controlled through an intelligent zoning plan.

A serious problem confronting the board of township commissioners is the provision of office facilities for the township organization. The present quarters are inadequate, and it is not advisable to erect a new township hall on the same site. A large plot of land has been purchased on Lancaster Avenue, almost directly opposite the present township hall; but its use as a site for a new township hall is open to rather serious objection. Some persons desire the township to retain the land; but while the township money is tied up in this plot, it is difficult to find money to purchase a more suitable site for a township hall. The problem seems far from solution; yet delay may prove costly to the township.

While the ratio of employes' compensation in 1921 to that in 1914 was approximately the same as the ratio of the cost of living in December, 1921, to the cost of living in 1914, we have found that certain individuals and certain groups of employes are underpaid, and that their compensation should be increased in the interest of greater efficiency. Certain improvements have been suggested in the methods and conditions of employment.

We have made various suggestions for improvements in the bookkeeping and accounting procedure and in financial policies, and recommendations particularly dealing with the creation of debt and the administration of the township's sinking fund. It is advisable that recurrent expenditures, as for highway improvement, should be met currently from tax receipts, and that money should be borrowed for such purposes only under unusual conditions justifying the increase which the borrowing adds to the cost. Where the township has borrowed for road improvements it has been good practice to issue short-term bonds which have been repaid well within the period of usefulness of the improvements.

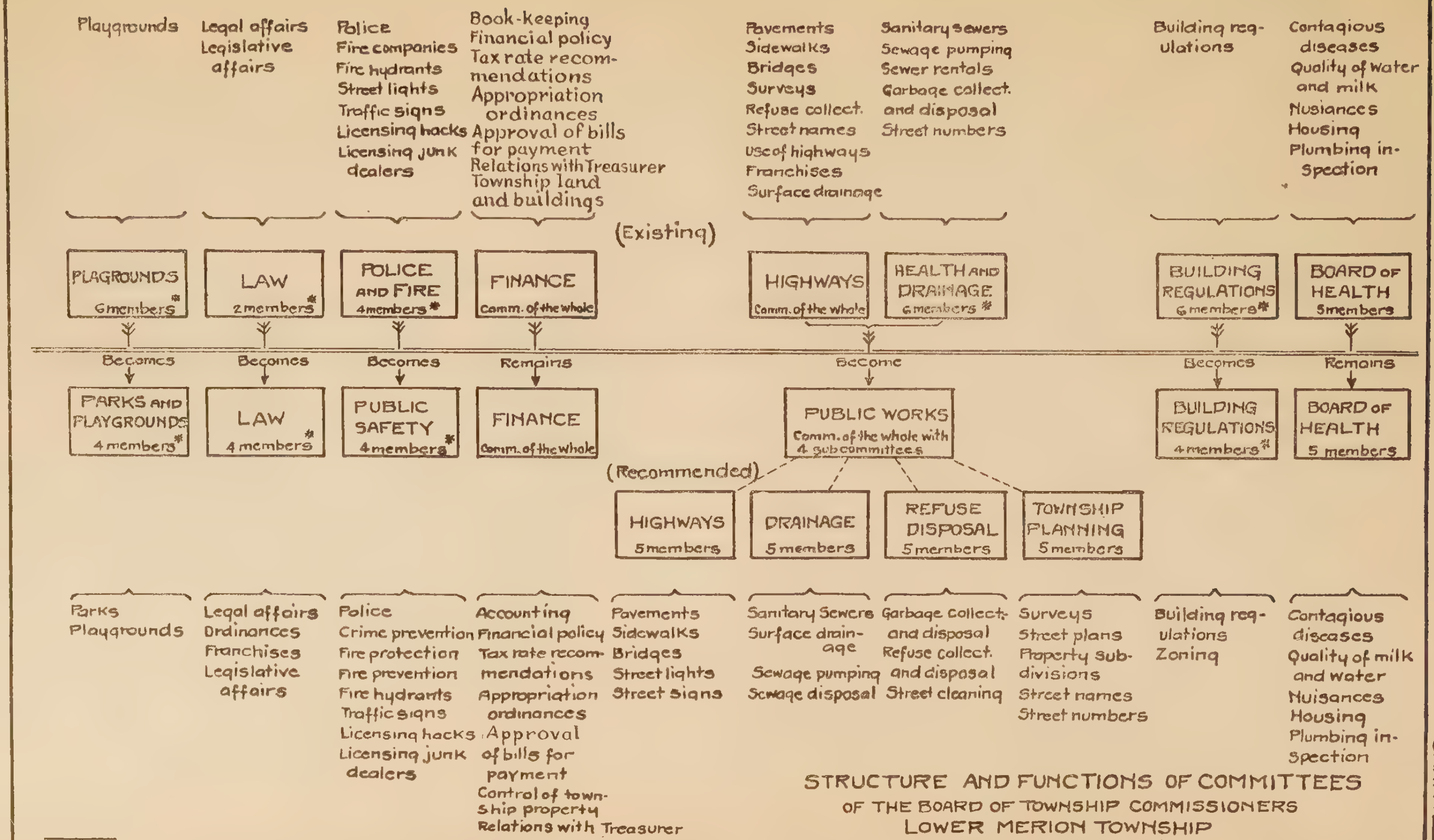
Increased public improvements, and the extension of public services, will involve increased expenditures, which in the main must be met by additional tax levies. It has been rather commonly assumed that because the tax rate has reached the 10-mill limit established by law for township purposes, it will be impossible to meet additional needs. It is a well-known fact, however, that real estate in the township is assessed at a very low percentage of its market value, and that an increase of assessments would permit much larger sums to be raised under existing tax limits. Existing laws permitting special taxes, such as the tax authorized for the purchase of a lot and the erection of a township hall thereon, also offer opportunities for increased revenues. It is important for the taxpayers to realize that total tax levies now made for township, school, and county purposes, and the low rates of assessment, constitute a much lighter tax burden than in the city of Philadelphia, for instance, and that there is pressing need for additional funds to improve the township services.

The township should of course always strive toward an ideal; but everybody should realize that criticism of its accomplishments is not fair unless made in the light of the practical and legal limitations under which the commissioners have labored. Apparently there is a disposition in some quarters not to give due weight to these limitations. Needless to say, we have no sympathy with this point of view.

Recommended Structural Changes

We believe that marked improvement in the government of Lower Merion Township can be effected by the expansion of its present activities, by the undertaking of new services, and by

CHART XIII-1



STRUCTURE AND FUNCTIONS OF COMMITTEES
OF THE BOARD OF TOWNSHIP COMMISSIONERS
LOWER MERION TOWNSHIP
MONTGOMERY COUNTY PENNA.
AS NOW ORGANIZED, AND AS PROPOSED BY THIS REPORT

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* Together with the President of the Board of Township Commissioners, ex officio

Report by Bureau of Municipal Research of Philadelphia-1922 necessary increases in personnel. This improvement, however, will be greater if there are certain changes made in the general structure of the township organization.

Changes in Committees

On chart XIII-1 is shown the present arrangement of committees of the board of township commissioners, the number of members in each, and the subjects handled by each. On the same chart we have indicated a new arrangement of these committees. The most important change suggested is the creation of a committee on public works (a committee of the whole similar to the present highway committee) which would have four subcommittees on highways, drainage, refuse disposal, and township planning, each with a small membership. Under this arrangement the health and drainage committee, which now has an anomalous title, would be merged with the highway committee, and the drainage work would be co-ordinated with the highway work in the new committee on public works. The subcommittee on highways would have practically the same functions as are now vested in the highway committee. The subcommittee on refuse disposal would deal with ash collection and disposal as well as with garbage collection and disposal, and with street cleaning, which will become increasingly important. Special attention is called to the subcommittee on township planning, a subject now of very vital importance to the township.

We have also suggested the transfer of certain functions from one committee to another.

Township Manager

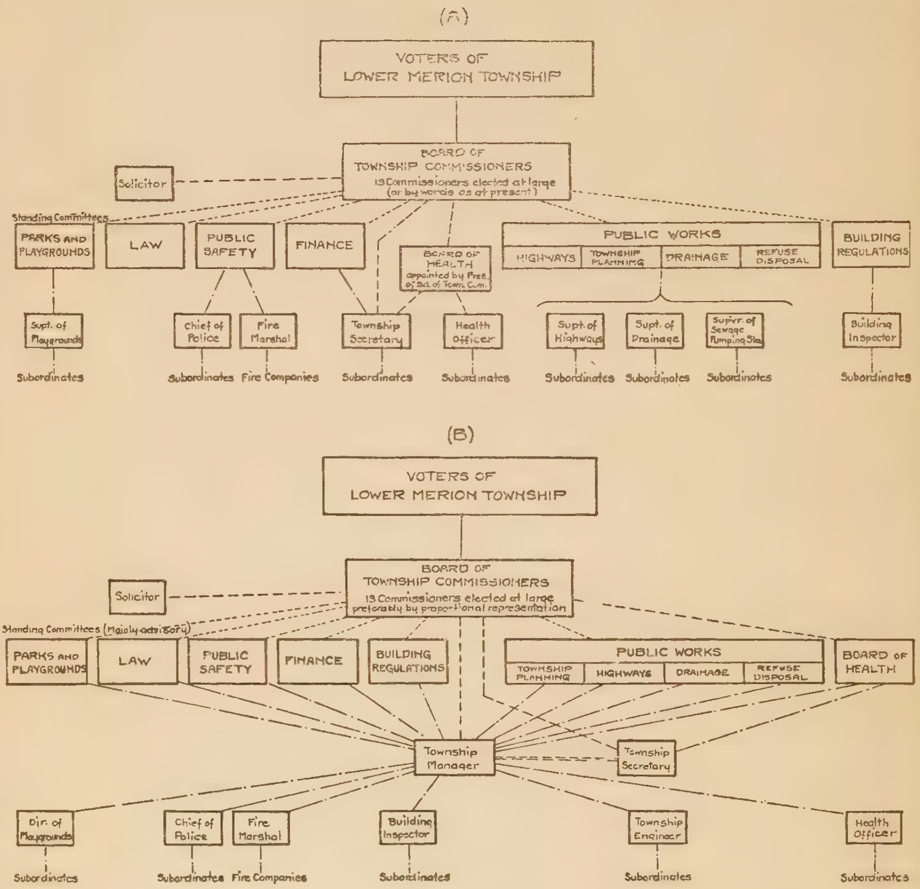
We have been very favorably impressed by the conscientious service of the several commissioners who have served as chairmen of the standing committees. Their work has often been arduous and has required a very considerable expenditure of time and energy. The functioning of the committees as advisory bodies to the board of township commissioners of itself makes a demand for a substantial expenditure of time. This demand is usually most severe on the chairmen, who assume the responsibility for investigating various projects in the interim between meetings. The fact that the committees are administrative units of the township government, as well as advisory units, also adds appreciably to the work of the committee members, and here again the load falls principally on the chairmen, who must carry out the wishes of the committee through the various employes, and must necessarily be in close touch at all times with administrative processes.

There are certain advantages in the committee system of government. For one thing, it keeps the legislative branch, which must formulate ordinances and regulations and make appropriations, in intimate touch with the administrative branch, so that there is mutual understanding of the problems confronting the township. There is no deep chasm between the legislative and administrative branches, such as may frequently appear in those types of government where the administrative branch is headed by an official elected by the people in the same manner as are the members of the legislative branch. It is interesting to note that the London county council, the governing body of the largest city in the world, operates on the committee system, although with a certain strengthening of the structure not present in the government of Lower Merion Township.

The township will probably retain with profit the active participation of its committees in the business of the township; but we believe that the need for a marked increase in the extent of the township's activities calls for a strengthening of its administrative methods. We accordingly recommend the employment of a township manager, who, elected by the board of township commissioners, would be responsible for the entire administration of the township's affairs. Apparently there is no legal obstacle to the adoption of such a plan. On the first half of chart XIII-2 we have shown the structure of the township government, beginning with the voters of the township and ending with the employes, and have indicated the suggested changes in the committee organization. On the second half of the chart we have shown how the township manager would fit into this scheme.

The more important changes which would be made by the employment of a township manager are the following: The committees would function as advisory units without direct duties of administration. This would relieve the committees of a vast amount of detail, and particularly it would release the commit-

CHART XIII-2



STRUCTURE OF GOVERNMENT UNDER BOARD OF TOWNSHIP COMMISSIONERS
LOWER MERION TOWNSHIP
MONTGOMERY CO. PENNA.

(A) As proposed, through committee reorganization and addition of certain employes

(B) As proposed in (A), with addition of a township manager

See Chart I-2 for relationship with other units of the township government, not affected by these proposals or suggestions

—— denotes election by the people — — denotes appointment —·— denotes supervision

Report by Bureau of Municipal Research of Philadelphia - 1922

CHART XIII-2

tee chairmen from this burden of detail. The manager would be able to investigate various projects for the committees, a task which now makes a heavy demand on the time of the chairmen. The entire administration would have a central head who would devote full time to township affairs and be able to remove promptly many of the difficulties that arise. On the manager's shoulders would rest the responsibility for the enforcement of all the township ordinances and regulations, a responsibility which is now divided among the several committees. The manager would also be responsible for the appointment, promotion, and dismissal of employes, subject, of course, to reasonable supervision by the board of township commissioners.

While the results obtained under the existing governmental structure have been very creditable, there frequently has been delay because of the unavailability of committee chairmen for consultation with department heads. There has also been a certain looseness of method in handling complaints made by citizens, since the investigation and answering of these complaints has often been assumed by the committee chairmen and handled at such odd times as they have been able to spare for the purpose. The employment of a township manager ought to obviate these difficulties.

Changes in Election of Commissioners

Under the present township code the commissioners are all elected from separate wards of the township. In our judgment this has frequently worked to the disadvantage of the entire community, because the local interests of the wards have been unduly favored. We believe that if the commissioners were elected at large, or if some of them were so elected, these disadvantages might be overcome to a considerable extent.[1] Such changes, of course, cannot be brought about except by legislative enactment.

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[1] To safeguard election at large, it might be advisable to use the method of balloting known as proportional representation, recommended by the recent constitutional revision commission for optional adoption by municipalities.

RELATION OF LOWER MERION TOWNSHIP TO NEIGHBORING SUBURBAN COMMUNITIES

In chart I-1, at the very beginning of this report, we have shown Lower Merion Township in relation to Philadelphia and the neighboring territory. From the standpoint of the governmental services involved, Lower Merion Township is very intimately related to the townships of Haverford and Radnor, lying to the west in Delaware County. These three townships together comprise a large suburban community in which the interests are so common and the development so similar that if political boundaries could be drawn at will, certainly the major portions of the territory of the three townships would be molded together in a single political unit.

Instead of being so molded, the political boundaries at certain places cut into the very heart of the built-up communities. The community of Bryn Mawr, for instance, lies in two counties and three townships, while the county line bisects the communities of Haverford and Ardmore. These unnatural boundaries are seriously detrimental to the interest of the district at large, as there are numerous instances of varying regulations in effect on opposite sides of the same street.

It may be thought that this subject is not entirely germane to a survey of the services rendered by the government of Lower Merion Township; but, after all, the township cannot consider itself an isolated community. It must realize that its future is inseparably tied up with that of the surrounding territory. There are difficulies to be encountered in adjusting political boundary lines in the Main Line section; but these difficulties are not insurmountable, even though it may be a long time before they can be overcome, and changes in the state constitution may first be required. We do not presume to indicate the manner in which the consolidation of the Main Line political divisions can be effected, but it is important that this should be accomplished when conditions permit.

A most curious fact is that the borough of Narberth is entirely surrounded by Lower Merion Township and dependent to a marked degree upon the township for its existence. To illustrate, it is necessary for the borough to contract with the township in order to provide an outlet for its sewerage system, while very recently the borough has arranged to have its policing done by the township police force, and the project of the borough's joining with Lower Merion Township and Haverford Township in the protection of milk supplies is in contemplation.[2] Narberth separated from the township and became a borough because of minor political difficulties in 1895, in the days of the old supervisor government. An inclination is apparent in the borough to throw off the borough yoke and re-enter the township. The step would be of advantage to the township as well as to the borough, because it would remove artificial political boundaries, and consolidate the interests and services of the two communities.

THE TOWNSHIP GOVERNMENT A SERVICE TO ITS CITIZENS

The realization that the township government exists to supply service to its citizens should permeate the entire organization. The government will be efficient to the extent that it supplies the needs of the citizens of the township. We believe that the government of Lower Merion Township has been unusually successful in this respect. We have found that the opinions of most of its citizens agree in that conclusion. Some citizens, while generally satisfied with the results obtained, occasionally express dissatisfaction with the delay and looseness which at times have characterized the handling of complaints and with the failure to reply promptly to letters. It is hardly necessary to remark that a citizen acquires his opinion of the township government through such contact as he may have with it, and because this contact as a rule is of a kind that officials are prone to consider relatively unimportant, it is above all necessary that these small matters should be handled with the greatest care.

It is important that the interest of the citizen should be enlisted in the affairs of the township. To some extent it may be possible to secure his active participation in the working out of township problems. It has become rather a general practice to add citizen representation to town-planning boards or commissions. Considerable interest in township planning might be aroused by citizen cooperation with the subcommittee on township planning proposed above. It is also possible that advisory citizen committees could be appointed to work in conjunction with other standing committees. The value of such cooperation has been well illustrated in the drafting of the building code.

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[2] See footnote page 220.

In order that the citizens may be kept informed of the doings of their legislative body, we recommend that all meetings of the board of township commissioners, and of its committees, and of the board of health, be open to the public. In a sense this has been done by the board of health; but this fact is not generally known. It might also be helpful, in bringing about a better understanding of township problems, if, from time to time, informative statements about these problems were issued in addition to the annual reports.

Quite frequently the satisfaction of a citizen with the service which the township renders creates a desire on his part to express his appreciation in the form of gifts. It is not good policy to give gratuities to employes and officials of the township in return for services rendered by the township, nor to allow such gifts to be received, particularly by members of the police force. It is entirely different, however, if a citizen desires to make a gift to the entire community. Such gifts are usually actuated by the highest devotion to the interests and welfare of the citizens. Reference has already been made to the fact that the playgrounds system was established in the beginning because of a substantial gift from a former president of the board of township commissioners.

A Parting Word

As a parting word we express the hope that the energetic and conscientious endeavor of the officials and employes of the township government may be so great in the future that Lower Merion will continue to occupy its high place in the municipalities of the commonwealth, and that the citizens, inspired by these efforts, will so round out and perfect their community life that it will be a conspicuous example of the value of cooperation.